BRUHATH BANGALORE MAHANAGARA PALIKE
BYATARANAPURA DIVISION

Name of the Project

Package No.05 (Consists of 3 Works)

TEST REPORTS

FIRST AND PART BILL

TEJUS CONSULTANTS
CONSULTING ENGINEERS AND DESIGNERS
No.45, Present BBMP No.1204/45, Old No.1204, 1st Main,
MRCR Layout, Bangalore-560040
email: tejusconsultants@gmail.com

TEJUS
CONSULTANTS

No. EE/ BYT-PMC / 801 / 22-23

Date: 07-04-2023

To
The Executive Engineer
Byatarayanapura Division
Bruhat Bangalore Mahanagara Palike
Bangalore – 560 092

Dear Sir

Sub: Package No.05 (Consists of 3 Works)

In reference to the above subject, this is to bring to your kind notice that we have scrutinized the **First and ~~Part~~ bill** submitted by **Sri . M/S Gopi Reddy K.** towards the above said work and arrived at an amount of **Rs 9,76,33,884.43/-(Rupees Nine Crore Seventy Six Lakh Thirty Three Thousand Eight Hundred Eighty Four And Forty-three Paise only)** the work has been completed satisfactorily.

This is for your kind information.

Thank you and assuring you the best of our Services at all the times

For Tejus Consultants

TEJUS CONSULTANTS
No. 45, Present BBMP No. 1204/45, Old no. 1204, 1st main, MRCR Layout, Bangalore 560040, Ph : 9611192254, 9611644110, tejusconsultants@gmail.com

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Test Report on Cement

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Sample ID	Cement (ACC Cement) OPC 43 Grade
Date of Sample Tested	13-12-2022
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	93 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	388	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	7mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	27.00%	

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4.The material used in the site satisfied the standard of MORTH's 5th revision and hence can be used in the work.

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Authorised Signatory

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike		
Project	Package No.05 (Consists of 3 Works)		
Consultants	TEJUS CONSULTANTS		
Contractor	Gopi Reddy K		
Total Weight:	10000	gms	

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**	**Proposed Use**	PCC for RCC drain
Sample Location	Shimadri Layout	**Date of Sampling**	12-12-2022
		Date of Testing	13-12-2022

IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	515	515	5.15	94.85	90-100
10.0	4531	5046	50.46	49.54	40-85
4.75	4422	9468	94.68	5.32	0-10
Pan	532	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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TEST REPORT	
Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Name of Work:Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

SPECIFIC GRAVITY AND WATER ABSORPTION
FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**M sand**	**Proposed Use**	PCC for RCC Drain
Location/Source	Shimadri Layout	**Date of Sampling**	12-12-2022
Period of Soaking	**24 hours**	**Date of Testing**	13-12-2022

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.	662	653	670	
B	Weight of oven - dry sample gm.	653	643	661	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1692	1686	1696	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.665	2.657	2.655	**2.659**
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.378	1.555	1.362	**1.432**

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Name of Work:Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

SIEVE ANALYSIS

Total Weight:	3000 gms			
Type of Material	M sand	**Proposed Use**	PCC for RCC Drain	
Sample Location	Shimadri Layout	**Date of Sampling**	13-12-2022	
		Date of Testing	13-12-2022	

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	241	241	8.03	91.97	90 - 100
2.36 mm	281	522	17.40	82.60	75 - 100
1.18 mm	523	1045	34.83	65.17	55 - 90
0.600 mm	482	1527	50.90	49.10	35 -59
0.300 mm	622	2149	71.63	28.37	8-30
0.150 mm	612	2761	92.03	7.97	0 - 10
Pan	239	3000			-

Remarks : ✓ Satisfactory / Not Satisfactory

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike		
Project	Package No.05 (Consists of 3 Works)		
Consultants	TEJUS CONSULTANTS		
Contractor	Gopi Reddy K		
Total Weight:	10000	gms	

SIEVE ANALYSIS

Type of Material	20 mm down size	**Proposed Use**	PCC for RCC drain
Sample Location	Shimadri Layout	**Date of Sampling**	12-12-2022
		Date of Testing	13-12-2022

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	100
20.00 mm	278	278	2.78	97.22	95 - 100
10.00 mm	4666	4944	49.44	50.56	25 - 55
4.75 mm	4332	9276	92.76	7.24	0 - 10
Pan	724	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

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B.B.M.P, Bangalore - 97

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike		
Project	Package No.05 (Consists of 3 Works)		
Consultants	TEJUS CONSULTANTS		
Contractor	Gopi Reddy K		
Total Weight:	10000	gms	

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**	**Proposed Use**	PCC for RCC drain
Sample Location	Singapura Paradise	**Date of Sampling**	13-12-2022
		Date of Testing	14-12-2022

IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	492	492	4.92	95.08	90-100
10.0	4615	5107	51.07	48.93	40-85
4.75	4322	9429	94.29	5.71	0-10
Pan	571	10000			

Remarks : Satisfactory / Not Satisfactory

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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TEST RESULTS OF PHYSICAL PROPERTIES OF REINFORCEMENT STEEL

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Contractor	:	Gopi Reddy K
Consultant	:	Tejus Consultants,
Date of Testing	:	14-12-2022
Techinical Reference	:	IS 1786:2008, IS1608:2005, IS1599:1985(Reaffirmed2006)
Sample Identification	:	10mm, 12mm, TMT Fe500 Bars

Sl. No.	Nominal size dia in mm)	Mass per metre (kg/m)	TENSILE STRENGTH		
			0.20% proof stress/yield stress N/mm2	Tensile strength N/mm2 '	Elongation,percent on gauge length
1	10	0.619	523	562	16

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TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike		
Project	Package No.05 (Consists of 3 Works)		
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore		
Contractor	Gopi Reddy K		
Total Weight:	10000	gms	

SIEVE ANALYSIS

Type of Material	20 mm down size	**Proposed Use**	PCC for RCC drain
Sample Location	Singapura Paradise	**Date of Sampling**	14-12-2022
		Date of Testing	15-12-2022

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	**100**
20.00 mm	261	261	2.61	97.39	**95 - 100**
10.00 mm	4822	5083	50.83	49.17	**25 - 55**
4.75 mm	4236	9319	93.19	6.81	**0 - 10**
Pan	681	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

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TEST REPORT	
Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Name of Work:Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

SPECIFIC GRAVITY AND WATER ABSORPTION
FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**M sand**	**Proposed Use**	PCC for RCC Drain
Location/Source	Singapura Paradise	**Date of Sampling**	14-12-2022
Period of Soaking	**24 hours**	**Date of Testing**	15-12-2022

Sl. No.	Test Property		TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.		642	655	662	
B	Weight of oven - dry sample gm.		634	646	653	
C	Weight of Pycnometer Filled with water gm		1275	1275	1275	
D	Weight of Pycnometer + sample + water gm		1678	1687	1691	
E	Bulk specific gravity	B	2.653	2.658	2.654	**2.655**
		(C + A - D)				
G	Absorption (%)	(A - B) *100	1.262	1.393	1.378	**1.344**
		B				

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B.B.M.P, Bangalore - 97

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Test Report on Cement

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Sample ID	Cement (ACC Cement) OPC 43 Grade
Date of Sample Tested	15-12-2022
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	104 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	412	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	6mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	29.00%	

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Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Name of Work:Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

SIEVE ANALYSIS

Total Weight:	**3000** gms				
Type of Material	**M sand**		**Proposed Use**	PCC for RCC Drain	
Sample Location	Singapura Paradise		**Date of Sampling**	15-12-2022	
			Date of Testing	15-12-2022	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing (Zone-II)**
10.00 mm	0	0	0	100.00	**100**
4.75 mm	238	238	7.93	92.07	**90 - 100**
2.36 mm	280	518	17.27	82.73	**75 - 100**
1.18 mm	522	1040	34.67	65.33	**55 - 90**
0.600 mm	489	1529	50.97	49.03	**35 -59**
0.300 mm	626	2155	71.83	28.17	**8-30**
0.150 mm	619	2774	92.47	7.53	**0 - 10**
Pan	226	3000			**-**

Remarks : ✓ Satisfactory / Not Satisfactory

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TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	M sand	**Proposed Use**	concrete
Location/Source	At Plant	**Date of Sampling**	15-12-2022
Period of Soaking	24 hours	**Date of Testing**	16-12-2022

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.	670	652	645	
B	Weight of oven - dry sample gm.	662	643	637	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1696	1685	1681	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.659	2.657	2.665	**2.660**
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.208	1.400	1.256	**1.288**

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Package No.05 (Consists of 3 Works)
Consultants	Tejus Consultants, Bangalore
Contractor	Gopi Reddy K

SIEVE ANALYSIS

Total Weight:	**3000** gms		
Type of Material	**M sand**	**Proposed Use**	concrete
Sample Location	At Plant	**Date of Sampling**	16-12-2022
		Date of Testing	16-12-2022

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	208	208	6.93	93.07	90 - 100
2.36 mm	317	525	17.50	82.50	75 - 100
1.18 mm	448	973	32.43	67.57	55 - 90
0.600 mm	491	1464	48.80	51.20	35 -59
0.300 mm	711	2175	72.50	27.50	8-30
0.150 mm	624	2799	93.30	6.70	0 - 10
Pan	201	3000			-

Remarks : ✓ Satisfactory / Not Satisfactory

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B.B.M.P, Bangalore - 97

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike		
Project	Package No.05 (Consists of 3 Works)		
Consultants	TEJUS CONSULTANTS		
Contractor	Gopi Reddy K		
Total Weight:	10000	gms	

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**	**Proposed Use**	CONCRETE
Sample Location	At Plant	**Date of Sampling**	15-12-2022
		Date of Testing	16-12-2022

IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	512	512	5.12	94.88	90-100
10.0	4536	5048	50.48	49.52	40-85
4.75	4311	9359	93.59	6.41	0-10
Pan	641	10000			

Remarks : Satisfactory / Not Satisfactory

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike				
Project	Package No.05 (Consists of 3 Works)				
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore				
Contractor	Gopi Reddy K				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	20 mm down size	**Proposed Use**	Concrete	
Sample Location	At Plant	**Date of Sampling**	15-12-2022	
		Date of Testing	16-12-2022	

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	100
20.00 mm	276	276	2.76	97.24	95 - 100
10.00 mm	4732	5008	50.08	49.92	25 - 55
4.75 mm	4324	9332	93.32	6.68	0 - 10
Pan	668	10000			

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Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report on Cement

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Sample ID	Cement (ACC Cement) OPC 43 Grade
Date of Sample Tested	16-12-2022
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	102Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	455 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	7 mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	25 % to 35

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Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:62 LHS Shimadri Layout 1st cross Road (drain Raft)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	17-12-2022	14-01-2023	28 days	8.155	22500	488	21.69	21.59
2	17-12-2022	14-01-2023	28 days	8.169	22500	485	21.56	
3	17-12-2022	14-01-2023	28 days	8.171	22500	484	21.51	

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TEJUS CONSULTANTS

Authorised Signatory

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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TEST RESULTS OF PHYSICAL PROPERTIES OF REINFORCEMENT STEEL

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Contractor	:	Gopi Reddy K
Consultant	:	Tejus Consultants,
Date of Testing	:	17-12-2022
Techinical Reference	:	IS 1786:2008, IS1608:2005, IS1599:1985(Reaffirmed2006)
Sample Identification	:	10mm, 12mm, TMT Fe500 Bars

Sl. No.	Nominal size dia in mm)	Mass per metre (kg/m)	TENSILE STRENGTH		
			0.20% proof stress/yield stress N/mm2	Tensile strength N/mm2 '	Elongation,percent on gauge length
1	10	0.619	525	568	16
2	12	0.890	538	581	17

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Consultant's Representative

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TEJUS
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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:62 LHS Shimadri Layout 1st cross Road (drain Raft)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	17-12-2022	24-12-2022	7 days	8.135	22500	312	13.87	13.87
2	17-12-2022	24-12-2022	7 days	8.156	22500	313	13.91	
3	17-12-2022	24-12-2022	7 days	8.144	22500	311	13.82	

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:93 LHS Shimadri Layout 1st cross Road (drain wall)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	19-12-2022	26-12-2022	7 days	8.129	22500	310	13.78	13.75
2	19-12-2022	26-12-2022	7 days	8.139	22500	308	13.69	
3	19-12-2022	26-12-2022	7 days	8.157	22500	310	13.78	

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:55 RHS Shimadri Layout 1st cross Road (drain Raft)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	19-12-2022	16-01-2023	28days	8.128	22500	492	21.87	21.78
2	19-12-2022	16-01-2023	28days	8.169	22500	490	21.78	
3	19-12-2022	16-01-2023	28days	8.145	22500	488	21.69	

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:55 RHS Shimadri Layout 1st cross Road (drain Raft)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	19-12-2022	26-12-2022	7 days	8.136	22500	313	13.91	13.85
2	19-12-2022	26-12-2022	7 days	8.155	22500	312	13.87	
3	19-12-2022	26-12-2022	7 days	8.148	22500	310	13.78	

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:93 LHS Shimadri Layout 1st cross Road (drain wall)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	19-12-2022	16-01-2023	28days	8.157	22500	490	21.78	22.18
2	19-12-2022	16-01-2023	28days	8.169	22500	497	22.09	
3	19-12-2022	16-01-2023	28days	8.185	22500	510	22.67	

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:72 LHS Singapura Paradise 6th Main Road (drain Raft)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	20-12-2022	17-01-2023	28days	8.143	22500	491	21.82	21.70
2	20-12-2022	17-01-2023	28days	8.138	22500	488	21.69	
3	20-12-2022	17-01-2023	28days	8.130	22500	486	21.60	

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:72 LHS Singapura Paradise 6th Main Road (drain Raft)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	20-12-2022	27-12-2022	7 days	8.136	22500	311	13.82	13.84
2	20-12-2022	27-12-2022	7 days	8.124	22500	312	13.87	
3	20-12-2022	27-12-2022	7 days	8.140	22500	311	13.82	

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike				
Project	Package No.05 (Consists of 3 Works)				
Consultants	TEJUS CONSULTANTS				
Contractor	Gopi Reddy K				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**		**Proposed Use**	CONCRETE	
Sample Location	At Plant		**Date of Sampling**	19-12-2022	
			Date of Testing	20-12-2022	
IS Sieve Size (in mm)	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
20.0	0	0	0	100	100
12.5	526	526	5.26	94.74	90-100
10.0	4438	4964	49.64	50.36	40-85
4.75	4522	9486	94.86	5.14	0-10
Pan	514	10000			

Remarks : Satisfactory / Not Satisfactory

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike				
Project	Package No.05 (Consists of 3 Works)				
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore				
Contractor	Gopi Reddy K				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	20 mm down size	**Proposed Use**	Concrete
Sample Location	At Plant	**Date of Sampling**	19-12-2022
		Date of Testing	20-12-2022

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	100
20.00 mm	267	267	2.67	97.33	95 - 100
10.00 mm	4791	5058	50.58	49.42	25 - 55
4.75 mm	4364	9422	94.22	5.78	0 - 10
Pan	578	10000			

Remarks : Satisfactory / Not Satisfactory

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TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	M sand	**Proposed Use**	concrete
Location/Source	At Plant	**Date of Sampling**	19-12-2022
Period of Soaking	24 hours	**Date of Testing**	20-12-2022

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.	659	638	645	
B	Weight of oven - dry sample gm.	650	630	637	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1689	1676	1680	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.653	2.658	2.654	**2.655**
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.385	1.270	1.256	**1.303**

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Package No.05 (Consists of 3 Works)
Consultants	Tejus Consultants, Bangalore
Contractor	Gopi Reddy K

SIEVE ANALYSIS

Total Weight:	**3000** gms		
Type of Material	**M sand**	**Proposed Use**	concrete
Sample Location	At Plant	**Date of Sampling**	20-12-2022
		Date of Testing	20-12-2022

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	**100**
4.75 mm	211	211	7.03	92.97	**90 - 100**
2.36 mm	322	533	17.77	82.23	**75 - 100**
1.18 mm	426	959	31.97	68.03	**55 - 90**
0.600 mm	485	1444	48.13	51.87	**35 -59**
0.300 mm	752	2196	73.20	26.80	**8-30**
0.150 mm	642	2838	94.60	5.40	**0 - 10**
Pan	162	3000			-

Remarks : ✓ Satisfactory / Not Satisfactory

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TEJUS
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Test Report on Cement

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Sample ID	Cement (ACC Cement) OPC 43 Grade
Date of Sample Tested	20-12-2022
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	96 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	395 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	8mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	26.00%	25 % to 35

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:101 RHS Shimadri Layout 1st cross Road (drain Wall)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	21-12-2022	28-12-2022	7 days	8.145	22500	311	13.82	13.91
2	21-12-2022	28-12-2022	7 days	8.136	22500	315	14.00	
3	21-12-2022	28-12-2022	7 days	8.139	22500	313	13.91	

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:101 RHS Shimadri Layout 1st cross Road (drain Wall)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	21-12-2022	18-01-2023	28days	8.166	22500	490	21.78	21.69
2	21-12-2022	18-01-2023	28days	8.158	22500	488	21.69	
3	21-12-2022	18-01-2023	28days	8.175	22500	486	21.60	

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PRECAST SLAB (CORE) TEST REPORT

Client	:	Bruhat Bangalore Mahanagara Palike
Contractor	:	Gopi Reddy K
Name of Work	:	Package No.05 (Consists of 3 Works)
No.of Sample Tested	:	3
Date of Testing	:	22-12-2022
Techinical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete	:	M20 _ 230mm Thick

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (KN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	100.00	180.00	3.520	2489.89	1.80	0.960	162.00	20.63	22.28	21.39	26.73
2	100.00	180.00	3.580	2532.33	1.80	0.960	159.00	20.24	21.86	20.99	26.24
3	100.00	180.00	3.541	2504.75	1.80	0.960	158.00	20.12	21.73	20.86	26.07

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Consultant's Representative

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PRECAST SLAB (CORE) TEST REPORT

Client	:	Bruhat Bangalore Mahanagara Palike
Contractor	:	Gopi Reddy K
Name of Work	:	Package No.05 (Consists of 3 Works)
No.of Sample Tested	:	3
Date of Testing	:	22-12-2022
Techinical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete	:	M20_100mm thick

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	90.00	0.458	2591.75	1.80	0.960	39.65	20.19	21.81	20.94	26.17
2	50.00	90.00	0.460	2603.07	1.80	0.960	39.50	20.12	21.73	20.86	26.07
3	50.00	90.00	0.452	2557.80	1.80	0.960	39.60	20.17	21.78	20.91	26.14

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TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:134 LHS Singapura Paradise 6th Main Road (drain Wall)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	22-12-2022	29-12-2022	7 days	8.144	22500	316	14.04	13.90
2	22-12-2022	29-12-2022	7 days	8.138	22500	310	13.78	
3	22-12-2022	29-12-2022	7 days	8.124	22500	312	13.87	

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:134 LHS Singapura Paradise 6th Main Road (drain Wall)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	22-12-2022	19-01-2023	28days	8.159	22500	485	21.56	21.59
2	22-12-2022	19-01-2023	28days	8.164	22500	489	21.73	
3	22-12-2022	19-01-2023	28days	8.175	22500	483	21.47	

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Vidyaranyapura Sub Division
B.B.M.P, Bangalore -

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PRECAST SLAB (CORE) TEST REPORT

Client	:	Bruhat Bangalore Mahanagara Palike
Contractor	:	Gopi Reddy K
Name of Work	:	Package No.05 (Consists of 3 Works)
No.of Sample Tested	:	3
Date of Testing	:	26-12-2022
Techinical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete	:	M20 . 100mm thick

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	90.00	0.468	2648.34	1.80	0.960	39.55	20.14	21.75	20.88	26.10
2	50.00	90.00	0.458	2591.75	1.80	0.960	39.49	20.11	21.72	20.85	26.07
3	50.00	90.00	0.461	2608.73	1.80	0.960	39.45	20.09	21.70	20.83	26.04

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:134 LHS Singapura Paradise 6th Main Road (drain Wall)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	26-12-2022	02-01-2023	7 days	8.144	22500	311	13.82	13.76
2	26-12-2022	02-01-2023	7 days	8.138	22500	310	13.78	
3	26-12-2022	02-01-2023	7 days	8.124	22500	308	13.69	

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TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:134 LHS Singapura Paradise 6th Main Road (drain Wall)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	26-12-2022	23-01-2023	28days	8.159	22500	482	21.42	21.53
2	26-12-2022	23-01-2023	28days	8.164	22500	485	21.56	
3	26-12-2022	23-01-2023	28days	8.175	22500	486	21.60	

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PRECAST SLAB (CORE) TEST REPORT

Client	:	Bruhat Bangalore Mahanagara Palike
Contractor	:	Gopi Reddy K
Name of Work	:	Package No.05 (Consists of 3 Works)
No.of Sample Tested	:	3
Date of Testing	:	28-12-2022
Techinical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
Grade of Concrete	:	M20 . 100mm thick

Sl. No.	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the Core x 1.08)	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
1	50.00	90.00	0.451	2552.14	1.80	0.960	39.55	20.14	21.75	20.88	26.10
2	50.00	90.00	0.466	2637.02	1.80	0.960	39.61	20.17	21.79	20.92	26.14
3	50.00	90.00	0.449	2540.82	1.80	0.960	39.72	20.23	21.85	20.97	26.22

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GRADATION FOR GSB
(As per MORT&H 400-1,Grading-II)

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	Gopi Reddy K
Date of Testing	:	03-01-2023
Type of Mix	:	GSB
Sample I/D	:	GSB1

Sample Location:	singapura pardise 6th main road	**Date of Sampling:**	02-01-2023
		Date of testing:	03-01-2023
Type of material & Purpose:	GSB	**Oven Dry Wt.(gms):**	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
75	0	0	0.00	100.00	-
53	0	0	0.00	100.00	100.00
26.5	2121	2121	21.21	78.79	70-100
9.5	2409	4530	45.30	54.70	50-80
4.75	985	5515	55.15	44.85	40-65
2.36	1258	6773	67.73	32.27	30-50
0.425	1905	8678	86.78	13.22	10-15
0.075	900	9578	95.78	4.22	<5
Pan	422.0				
Total	10000.0				

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Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	Gopi Reddy K		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	**04-01-2023**		
Layer no. or level	GSB layer		
Depth of hole	150mm		
Field density:	1	2	2
Chainage / Location	**singapura pardise 6th main road@88**	**singapura pardise 4th main road@105**	**singapura pardise 1st main road@124**
Wt. of wet material from hole (Ww) gms.	5981	5972	5988
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10579	10575	10576
Wt. of sand in hole+ cone (w3) gms.	4421	4425	4424
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3341	3345	3344
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.36	2.36	2.36
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.21	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.61	98.44	98.73
% compaction required	98%	98%	98%

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Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	Singapura Paradies 6th Main Road	**Date of Sampling**	**04-01-2023**
		Date of Testing	**05-01-2023**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	631	87	521	73
16.0	12.5	1117	121	986	115
12.5	10.0	776	53	724	54
10.0	6.3	613	62	554	45
Total		**3137**	**323**	**2785**	**287**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.30
Elongation Index(%):	10.31
Combined FI+EL (%)	20.60

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TEJUS
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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	WMM	**Date of Sampling**	**04-01-2023**
Sample Location	Singapura Paradies	**Date of Testing**	**05-01-2023**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	351.00	364.00	341.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	272.00	282.00	262.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	79.00	82.00	79.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	22.51	22.53	23.17	
5	Average Aggregate impact value	(%)	22.73			Max - 30 %

Remarks : ✓ Satisfactory / Not Satisfactory

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Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	05-01-2023
Type of Mix	:	WMM
Sample I/D	:	WMM 1

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Singapura Paradies 6th main road	Date of Sampling:	04-01-2023
		Date of testing:	05-01-2023
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	381	381	3.81	96.19	95-100
22.4	1796	2177	21.77	78.23	60-80
11.2	2251	4428	44.28	55.72	40-60
4.75	2109.0	6537	65.37	34.63	25-40
2.36	1391.0	7928	79.28	20.72	15-30
0.6	775.0	8703	87.03	12.97	8.0-22.0
0.075	891.0	9594	95.94	4.06	0-8
Pan	406.0	10000			
Total	10000.0				

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material		WMM		**Proposed Use**	**WMM**
Sample Location		Singapura Paradies 6th Main Road		**Date of Sampling**	**05-01-2023**
				Date of Testing	**06-01-2023**
Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	605	84	523	74
16.0	12.5	1126	117	1013	123
12.5	10.0	774	62	723	57
10.0	6.3	616	53	567	43
Total		**3121**	**316**	**2826**	**297**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.12
Elongation Index(%):	10.51
Combined FI+EL (%)	20.63

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Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	Gopi Reddy K		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	**06-01-2023**		
Layer no. or level	GSB layer		
Depth of hole	150mm		
Field density:	**1**	**2**	**2**
Chainage / Location	**New Sai Garden 4th c/s road@32**	**Ganesh Layout 3rd c/s road@70**	**Ganesh Layout Main road@196**
Wt. of wet material from hole (Ww) gms.	5989	5979	5996
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10574	10582	10575
Wt. of sand in hole+ cone (w3) gms.	4426	4418	4425
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3346	3338	3345
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.36	2.36	2.37
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.60	98.76	98.84
% compaction required	98%	98%	98%

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TEJUS
CONSULTANTS

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	06-01-2023
Type of Mix	:	WMM
Sample I/D	:	WMM 2

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Singapura Paradies 6th Main Road	Date of Sampling:	05-01-2023
		Date of testing:	06-01-2023
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	372	372	3.72	96.28	95-100
22.4	2420	2792	27.92	72.08	60-80
11.2	2465	5257	52.57	47.43	40-60
4.75	1453.0	6710	67.10	32.90	25-40
2.36	790.0	7500	75.00	25.00	15-30
0.6	800.0	8300	83.00	17.00	8.0-22.0
0.075	991.0	9291	92.91	7.09	0-8
Pan	709.0	10000			
Total	10000.0				

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TEJUS
CONSULTANTS

GRADATION FOR GSB
(As per MORT&H 400-1,Grading-II)

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	Gopi Reddy K
Date of Testing	:	06-01-2023
Type of Mix	:	GSB
Sample I/D	:	GSB2

Sample Location:	Balaji Layout	**Date of Sampling:**	05-01-2023
		Date of testing:	06-01-2023
Type of material & Purpose:	GSB	**Oven Dry Wt.(gms):**	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
75	0	0	0.00	100.00	-
53	0	0	0.00	100.00	100.00
26.5	2210	2210	22.10	77.90	70-100
9.5	2561	4771	47.71	52.29	50-80
4.75	866	5637	56.37	43.63	40-65
2.36	1201	6838	68.38	31.62	30-50
0.425	1928	8766	87.66	12.34	10-15
0.075	811	9577	95.77	4.23	<5
Pan	423.0				
Total	10000.0				

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TEJUS CONSULTANTS

Authorised Signatory

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
CONSULTANTS

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	DBM	**Date of Sampling**	**07-01-2023**
Sample Location	At plant	**Date of Testing**	**07-01-2023**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	387.00	375.00	364.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	288.00	280.00	271.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	99.00	95.00	93.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	25.58	25.33	25.55	
5	Average Aggregate impact value	(%)	25.49			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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TEJUS
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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material		DBM		**Proposed Use**	**DBM**
Sample Location		At plant		**Date of Sampling**	**07-01-2023**
				Date of Testing	**07-01-2023**
Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	7412	670	7036	346
31.5	25.0	4232	233	3520	298
25.0	20.0	2436	240	1884	220
20.0	16.0	1562	320	972	244
16.0	12.5	584	105	466	197
12.5	10.0	488	68	272	88
10.0	6.3	130	82	80	63
Total		**16844**	**1718**	**14230**	**1456**

Results

Flakiness Index(%):	10.20
Elongation Index(%):	10.23
Combined FI+EL (%)	20.43

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

	Date:	**07-01-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:		
	1	**2**
Chainage	**Singapura Paradies 6th main road @15**	**Singapura Paradies 6th main road@30**
Wt. of wet material from hole (Ww) gms.	5987	5981
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10587	10591
Wt. of sand in hole+ cone (w3) gms.	4413	4409
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3333	3329
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.40	6.20
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.17	98.37
% compaction required	98%	98%

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

	Date:	**07-01-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**Singapura Paradies 1st Main Rd @68**	**Singapura Paradies 5th main road@142**
Wt. of wet material from hole (Ww) gms.	5967	5981
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10593	10595
Wt. of sand in hole+ cone (w3) gms.	4407	4405
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3327	3325
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.11	98.40
% compaction required	98%	98%

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Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	Gopi Reddy K		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	09-01-2023		
Layer no. or level	GSB layer		
Depth of hole	150mm		
Field density:	1	2	2
Chainage / Location	Balaji Layout 2nd c/s road@48	Balaji Layout 3rd Cross Rd Left Side Rd @63	Balaji Layout 3rd Cross Rd Right Side Rd @39
Wt. of wet material from hole (Ww) gms.	5988	5969	5994
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10574	10582	10575
Wt. of sand in hole+ cone (w3) gms.	4426	4418	4425
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3346	3338	3345
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.36	2.36	2.37
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.58	98.60	98.80
% compaction required	98%	98%	98%

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Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	Gopi Reddy K		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	09-01-2023		
Layer no. or level	GSB layer		
Depth of hole	150mm		
Field density:	1	2	2
Chainage / Location	Balaji Layout 4th Cross Rd Right Side Rd @15	Balaji Layout 4th Cross Rd Left Side Rd @29	Balaji Layout Main Rd @75
Wt. of wet material from hole (Ww) gms.	5985	5975	5995
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10574	10582	10575
Wt. of sand in hole+ cone (w3) gms.	4426	4418	4425
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3346	3338	3345
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.36	2.36	2.37
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.53	98.70	98.82
% compaction required	98%	98%	98%

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Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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GRADATION FOR GSB
(As per MORT&H 400-1,Grading-II)

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	Gopi Reddy K
Date of Testing	:	10-01-2023
Type of Mix	:	GSB
Sample I/D	:	GSB3

Sample Location:	Singapura Layout	**Date of Sampling:**	09-01-2023
		Date of testing:	10-01-2023
Type of material & Purpose:	GSB	**Oven Dry Wt.(gms):**	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
75	0	0	0.00	100.00	-
53	0	0	0.00	100.00	100.00
26.5	2129	2129	21.29	78.71	70-100
9.5	2409	4538	45.38	54.62	50-80
4.75	985	5523	55.23	44.77	40-65
2.36	1258	6781	67.81	32.19	30-50
0.425	1905	8686	86.86	13.14	10-15
0.075	900	9586	95.86	4.14	<5
Pan	414.0				
Total	10000.0				

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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CONSULTANTS

BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	10-01-2023
Type of Mix	:	DBM
Sample I/D	:	DBM-1

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	864	911
2. Weight of Mixture after extraction, g	827	872
3. Weight of Bitumen	37	39
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	39.00	41.00
8. Bitumen content in %	4.51	4.50
9. Average Bitumen content in %	4.51	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	Singapura Paradies 6th Main Road	**Date of Sampling:**	10-01-2023
		Date of testing:	10-01-2023
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	827

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	38.0	38.0	4.59	95.41	90-100
19.00	121.0	159.0	19.23	80.77	71-95
13.20	110.0	269.0	32.53	67.47	56-80
4.750	149.0	418.0	50.54	49.46	38-54
2.360	96.0	514.0	62.15	37.85	28-42
0.300	185.0	699.0	84.52	15.48	7-21
0.075	63.0	762.0	92.14	7.86	2-8
Pan	52.0	814.0			
Total	827.0				

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Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

	Date:	**10-01-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**New Sai Garden 4th c/s road @32**	**New Sai Garden 3rd c/s road @45**
Wt. of wet material from hole (Ww) gms.	5987	5992
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10593	10597
Wt. of sand in hole+ cone (w3) gms.	4407	4403
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3327	3323
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.38	2.38
Moisture meter reading(moisture content)	6.40	6.20
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.24
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.35	98.73
% compaction required	98%	98%

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TEJUS
CONSULTANTS

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

	Date:	**10-01-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**New Sai Garden Mn Road @138**	**New Sai Garden Mn Road @253**
Wt. of wet material from hole (Ww) gms.	5980	5977
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10589	10591
Wt. of sand in hole+ cone (w3) gms.	4411	4409
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3331	3329
Bulk density of sand (ys)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (yb)=(Ww/w4*(ys))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.21	98.22
% compaction required	98%	98%

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	Balaji Layout and c/s roads	**Date of Sampling**	**10-01-2023**
		Date of Testing	**11-01-2023**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	609	87	521	73
16.0	12.5	1123	119	987	113
12.5	10.0	777	54	728	58
10.0	6.3	613	60	561	48
Total		**3122**	**320**	**2797**	**292**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.25
Elongation Index(%):	10.44
Combined FI+EL (%)	20.69

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B.B.M.P, Bangalore - 97

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Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	11-01-2023
Type of Mix	:	WMM
Sample I/D	:	WMM 3

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Balaji Layout and c/s roads	Date of Sampling:	10-01-2023
		Date of testing:	11-01-2023
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	360	360	3.60	96.40	95-100
22.4	2411	2771	27.71	72.29	60-80
11.2	2426	5197	51.97	48.03	40-60
4.75	1484.0	6681	66.81	33.19	25-40
2.36	796.0	7477	74.77	25.23	15-30
0.6	830.0	8307	83.07	16.93	8.0-22.0
0.075	990.0	9297	92.97	7.03	0-8
Pan	703.0	10000			
Total	10000.0				

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Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	11-01-2023
Type of Mix	:	WMM
Sample I/D	:	WMM 4

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Balaji Layout and c/s roads	**Date of Sampling:**	10-01-2023
		Date of testing:	11-01-2023
Type of material & Purpose:	WMM	**Oven Dry Wt.(gms):**	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	394	394	3.94	96.06	95-100
22.4	2366	2760	27.60	72.40	60-80
11.2	2481	5241	52.41	47.59	40-60
4.75	1593.0	6834	68.34	31.66	25-40
2.36	785.0	7619	76.19	23.81	15-30
0.6	802.0	8421	84.21	15.79	8.0-22.0
0.075	993.0	9414	94.14	5.86	0-8
Pan	586.0	10000			
Total	10000.0				

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Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
CONSULTANTS

Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	Gopi Reddy K		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	11-01-2023		
Layer no. or level	GSB layer		
Depth of hole	150mm		
Field density:	1	2	2
Chainage / Location	Singapura Layout 1st c/s Rd @32	Singapura Layout 4th c/s Rd @65	Singapura Layout 6th c/s Rd @105
Wt. of wet material from hole (Ww) gms.	5984	5972	5991
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10574	10582	10575
Wt. of sand in hole+ cone (w3) gms.	4426	4418	4425
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3346	3338	3345
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.36	2.36	2.36
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.52	98.65	98.75
% compaction required	98%	98%	98%

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	WMM	**Date of Sampling**	**11-01-2023**
Sample Location	Baalaji Layout	**Date of Testing**	**12-01-2023**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	352.00	361.00	336.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	268.00	277.00	258.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	84.00	84.00	78.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	23.86	23.27	23.21	
5	Average Aggregate impact value	(%)	23.45			Max - 30 %

Remarks :

Satisfactory / Not Satisfactory

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5. the work.

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Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

	Date:	**13-01-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**Balaji Layout 2nd c/s @55**	**Balaji Layout 3rd c/s leftroad @61**
Wt. of wet material from hole (Ww) gms.	5977	5964
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10596	10595
Wt. of sand in hole+ cone (w3) gms.	4404	4405
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3324	3325
Bulk density of sand (ys)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (yb)=(Ww/w4*(ys))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.40	6.20
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.27	98.21
% compaction required	98%	98%

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	DBM	**Date of Sampling**	**13-01-2023**
Sample Location	At plant	**Date of Testing**	**13-01-2023**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	396.00	373.00	371.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	299.00	280.00	276.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	97.00	94.00	95.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	24.49	25.20	25.61	
5	Average Aggregate impact value	(%)	25.10			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material		DBM		**Proposed Use**	**DBM**
Sample Location		At plant		**Date of Sampling**	**13-01-2023**
				Date of Testing	**13-01-2023**
Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	7331	674	7013	367
31.5	25.0	4221	263	3513	244
25.0	20.0	2483	235	1887	272
20.0	16.0	1582	317	965	251
16.0	12.5	592	107	453	197
12.5	10.0	496	64	283	82
10.0	6.3	138	82	76	58
Total		**16843**	**1742**	**14190**	**1471**

Results

Flakiness Index(%):	10.34
Elongation Index(%):	10.37
Combined FI+EL (%)	20.71

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Assistant Executive Engineer
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B.B.M.P, Bangalore - 97

TEJUS CONSULTANTS

DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	Gopi Reddy K
Date of Testing :	13-01-2023
Type of Mix :	Tack coat
Sample I/D :	2
Location :	Ganesh Layout Main Road

Determination	Unit	Test No		
		1	2	3
Chainage		**@88**	**@164**	**@265**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.755	0.748	0.812
Final weight of plate after application of tack Coat (c)	Kg	0.778	0.771	0.835
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.252	0.251	0.252
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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B.B.M.P, Bangalore - 97

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BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	13-01-2023
Type of Mix	:	DBM
Sample I/D	:	DBM-2

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	883	962
2. Weight of Mixture after extraction, g	845	920
3. Weight of Bitumen	38	42
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	40.00	44.00
8. Bitumen content in %	4.53	4.57
9. Average Bitumen content in %	4.55	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	Ganesh Layout Main Road	**Date of Sampling:**	13-01-2023
		Date of testing:	13-01-2023
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	845

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	43.0	43.0	5.09	94.91	90-100
19.00	122.0	165.0	19.53	80.47	71-95
13.20	115.0	280.0	33.14	66.86	56-80
4.750	168.0	448.0	53.02	46.98	38-54
2.360	96.0	544.0	64.38	35.62	28-42
0.300	153.0	697.0	82.49	17.51	7-21
0.075	99.0	796.0	94.20	5.80	2-8
Pan	49.0	845.0			
Total	845.0				

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TEJUS CONSULTANTS
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TEJUS
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Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	Gopi Reddy K		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	**13-01-2023**		
Layer no. or level	GSB layer		
Depth of hole	150mm		
Field density:	1	2	2
Chainage / Location	**Singapura Layout Patanjali shop Rd @69**	**Singapura Layout 3rd Main Rd @126**	**Singapura Layout 2nd Main Rd @154**
Wt. of wet material from hole (Ww) gms.	5983	5979	5996
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10574	10582	10575
Wt. of sand in hole+ cone (w3) gms.	4426	4418	4425
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3346	3338	3345
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.36	2.36	2.37
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.50	98.76	98.84
% compaction required	98%	98%	98%

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Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	14-01-2023
Type of Mix	:	WMM
Sample I/D	:	WMM 5

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Singapura Layout and c/s Roads	Date of Sampling:	13-01-2023
		Date of testing:	14-01-2023
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	379	379	3.79	96.21	95-100
22.4	1766	2145	21.45	78.55	60-80
11.2	2262	4407	44.07	55.93	40-60
4.75	2020.0	6427	64.27	35.73	25-40
2.36	1392.0	7819	78.19	21.81	15-30
0.6	775.0	8594	85.94	14.06	8.0-22.0
0.075	885.0	9479	94.79	5.21	0-8
Pan	521.0	10000			
Total	10000.0				

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B.B.M.P. Bangalore - 97

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	14-01-2023
Type of Mix	:	WMM
Sample I/D	:	WMM 6

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Singapura Layout and c/s Roads	Date of Sampling:	13-01-2023
		Date of testing:	14-01-2023
Type of material & Purpose:	WMM	Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	389	389	3.89	96.11	95-100
22.4	1780	2169	21.69	78.31	60-80
11.2	2583	4752	47.52	52.48	40-60
4.75	2017.0	6769	67.69	32.31	25-40
2.36	793.0	7562	75.62	24.38	15-30
0.6	821.0	8383	83.83	16.17	8.0-22.0
0.075	993.0	9376	93.76	6.24	0-8
Pan		9376			
Total	9376.0				

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	Singapura Layout and c/s Roads	**Date of Sampling**	**13-01-2023**
		Date of Testing	**14-01-2023**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	607	83	521	70
16.0	12.5	1127	119	989	114
12.5	10.0	776	58	725	58
10.0	6.3	611	61	558	46
Total		**3121**	**321**	**2793**	**288**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.29
Elongation Index(%):	10.31
Combined FI+EL (%)	20.60

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

	Date:	**16-01-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	1	2
Chainage	**Singapura Layout 5th cross'@136**	**Singapura Layout 6th cross'@152**
Wt. of wet material from hole (Ww) gms.	5965	5973
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10597	10587
Wt. of sand in hole+ cone (w3) gms.	4403	4413
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3323	3333
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.40	6.20
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.10	98.13
% compaction required	98%	98%

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

	Date:	**16-01-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**Singapura Layout 3rd cross'@108**	**Singapura Layout 4th cross'@135**
Wt. of wet material from hole (Ww) gms.	5995	5980
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10596	10583
Wt. of sand in hole+ cone (w3) gms.	4404	4417
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3324	3337
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.38	2.37
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.24	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.66	98.03
% compaction required	98%	98%

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Consultant's Representative

Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
CONSULTANTS

GRADATION FOR GSB
(As per MORT&H 400-1,Grading-II)

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	Gopi Reddy K
Date of Testing	:	17-01-2023
Type of Mix	:	GSB
Sample I/D	:	GSB4

Sample Location:	1st Main Rd from end	**Date of Sampling:**	16-01-2023	
		Date of testing:	17-01-2023	
Type of material & Purpose:	GSB	**Oven Dry Wt.(gms):**	10000.0	

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
75	0	0	0.00	100.00	-
53	0	0	0.00	100.00	100.00
26.5	2129	2129	21.29	78.71	70-100
9.5	2409	4538	45.38	54.62	50-80
4.75	985	5523	55.23	44.77	40-65
2.36	1258	6781	67.81	32.19	30-50
0.425	1905	8686	86.86	13.14	10-15
0.075	900	9586	95.86	4.14	<5
Pan	414.0				
Total	10000.0				

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Authorised Signatory

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
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DETERMINATION OF RATE OF SPREAD TACK COAT				
Name of Work :	Package No.05 (Consists of 3 Works)			
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE			
Consultant :	M/s Tejus Consultants			
Contractor :	Gopi Reddy K			
Date of Testing :	17-01-2023			
Type of Mix :	Tack coat			
Sample I/D :	3			
Location :	Balaji Layout 2nd,3rd 4th c/s Roads			
Determination	**Unit**	**Test No**		
		1	**2**	**3**
Chainage		**@35**	**@46**	**@52**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.766	0.775	0.784
Final weight of plate after application of tack Coat (c)	Kg	0.789	0.798	0.807
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.252	0.251	0.252
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
CONSULTANTS

BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	17-01-2023
Type of Mix	:	DBM
Sample I/D	:	DBM-3

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	844	933
2. Weight of Mixture after extraction, g	808	893
3. Weight of Bitumen	36	40
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	38.00	42.00
8. Bitumen content in %	4.50	4.50
9. Average Bitumen content in %	4.50	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	Balaji Layout 2nd,3rd 4th c/s Roads	**Date of Sampling:**	17-01-2023
		Date of testing:	17-01-2023
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	808

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	35.0	35.0	4.33	95.67	90-100
19.00	123.0	158.0	19.55	80.45	71-95
13.20	112.0	270.0	33.42	66.58	56-80
4.750	149.0	419.0	51.86	48.14	38-54
2.360	91.0	510.0	63.12	36.88	28-42
0.300	184.0	694.0	85.89	14.11	7-21
0.075	64.0	758.0	93.81	6.19	2-8
Pan	50.0	808.0			
Total	808.0				

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	WMM	**Date of Sampling**	**17-01-2023**
Sample Location	**Singapura Layout**	**Date of Testing**	**18-01-2023**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	357.00	350.00	347.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	260.00	267.00	257.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	97.00	83.00	90.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	27.17	23.71	25.94	
5	Average Aggregate impact value	(%)	25.61			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

	Date:	**18-01-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**Singapura Layout 5th A cross'@46**	**Singapura Layout Patanjali Shop Rd'@122**
Wt. of wet material from hole (Ww) gms.	5977	5987
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10585	10593
Wt. of sand in hole+ cone (w3) gms.	4415	4407
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3335	3327
Bulk density of sand (ys)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (yb)=(Ww/w4*(ys))gm/cc	2.37	2.38
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.04	98.44
% compaction required	98%	98%

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Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	Gopi Reddy K		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	**18-01-2023**		
Layer no. or level	GSB layer		
Depth of hole	150mm		
Field density:	**1**	**2**	**2**
Chainage / Location	**Singapura Layout 1st Main Rd from end @122**	**Kamaru House Rd)@96**	**Muniswamappa Garden 6th Main Rd @106**
Wt. of wet material from hole (Ww) gms.	5968	5978	5983
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10575	10585	10581
Wt. of sand in hole+ cone (w3) gms.	4425	4415	4419
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3345	3335	3339
Bulk density of sand (ys)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (yb)=(Ww/w4*(ys))gm/cc	2.36	2.37	2.37
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100yb/100+mc)gm/cc	2.21	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.28	98.83	98.80
% compaction required	98%	98%	98%

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	Muniswamappa Garden	**Date of Sampling**	**19-01-2023**
		Date of Testing	**20-01-2023**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	606	85	518	71
16.0	12.5	1122	120	980	113
12.5	10.0	775	56	729	58
10.0	6.3	613	69	559	47
Total		**3116**	**330**	**2786**	**289**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.59
Elongation Index(%):	10.37
Combined FI+EL (%)	20.96

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Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	Gopi Reddy K
Date of Testing :	19-01-2023
Type of Mix :	Tack coat
Sample I/D :	4
Location :	Singapura Layout and cross Roads

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Chainage		**@48 1st c/s**	**@102 3rd c/s**	**@123 4th c/s**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.782	0.765	0.748
Final weight of plate after application of tack Coat (c)	Kg	0.805	0.788	0.771
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.251	0.251	0.250
Average	Kg/sq.m	0.251		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
CONSULTANTS

BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	19-01-2023
Type of Mix	:	DBM
Sample I/D	:	DBM-4

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	849	923
2. Weight of Mixture after extraction, g	812	883
3. Weight of Bitumen	37	40
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	39.00	42.00
8. Bitumen content in %	4.59	4.55
9. Average Bitumen content in %	4.57	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	Singapura Layout and cross Roads	**Date of Sampling:**	19-01-2023
		Date of testing:	19-01-2023
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	812

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	38.0	38.0	4.68	95.32	90-100
19.00	129.0	167.0	20.57	79.43	71-95
13.20	117.0	284.0	34.98	65.02	56-80
4.750	154.0	438.0	53.94	46.06	38-54
2.360	92.0	530.0	65.27	34.73	28-42
0.300	183.0	713.0	87.81	12.19	7-21
0.075	62.0	775.0	95.44	4.56	2-8
Pan	37.0	812.0			
Total	812.0				

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS CONSULTANTS

Consultant's Representative

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Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	20-01-2023
Type of Mix	:	WMM
Sample I/D	:	WMM 7

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Muniswamappa Garden	**Date of Sampling:**	19-01-2023
		Date of testing:	20-01-2023
Type of material & Purpose:	WMM	**Oven Dry Wt.(gms):**	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	387	387	3.87	96.13	95-100
22.4	2133	2520	25.20	74.80	60-80
11.2	2341	4861	48.61	51.39	40-60
4.75	1993.0	6854	68.54	31.46	25-40
2.36	799.0	7653	76.53	23.47	15-30
0.6	819.0	8472	84.72	15.28	8.0-22.0
0.075	993.0	9465	94.65	5.35	0-8
Pan	535.0	10000			
Total	10000.0				

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TEJUS
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FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Project :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor:	Gopi Reddy K

Type of Material	BC	**Proposed Use**	BC
Sample Location	At plant	**Date of Sampling**	20-01-2023
		Date of Testing	20-01-2023

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	861	73	937	74
16.0	12.5	1367	131	1222	125
12.5	10.0	523	77	424	59
10.0	6.3	444	53	423	58
Total		**3195**	**334**	**3006**	**316**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.45
Elongation Index(%):	10.51
Combined FI+EL (%)	20.97

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B.B.M.P, Bangalore - 97

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AGGREGATE IMPACT VALUE
(IS: 2386 Part - 4)

Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	TEJUS CONSULTANTS, BANGALORE		
Contractor	Gopi Reddy K		
Proposed Use	BC	**Date of Sampling**	20-01-2023
Sample Location	At plant	**Date of Testing**	20-01-2023

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	373.00	351.00	355.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	282.00	267.00	274.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	91.00	84.00	81.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	24.40	23.93	22.82	
5	Average Aggregate impact value	(%)	23.72			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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TEJUS CONSULTANTS

Authorised Signatory

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Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	Gopi Reddy K		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	20-01-2023		
Layer no. or level	GSB layer		
Depth of hole	150mm		
Field density:	1	2	2
Chainage / Location	**Muniswamappa Garden 1st Main Rd @79**	**Muniswamappa Garden6th c/s Rd Rd @55**	**Muniswamappa Garden Acchi Store Rd @90**
Wt. of wet material from hole (Ww) gms.	5975	5964	5991
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10584	10587	10576
Wt. of sand in hole+ cone (w3) gms.	4416	4413	4424
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3336	3333	3344
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.36	2.36	2.36
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.66	98.66	98.78
% compaction required	98%	98%	98%

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Authorised Signatory

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	Gopi Reddy K
Date of Testing :	21-01-2023
Type of Mix :	Tack coat
Sample I/D :	5
Location :	Singapura Layout 5th A cross Road & Patanjali Shop Rd

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Chainage		**@75 5th A c/s**	**@58**	**@129**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.748	0.758	0.762
Final weight of plate after application of tack Coat (c)	Kg	0.771	0.781	0.785
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.252	0.251	0.252
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	Gopi Reddy K		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	21-01-2023		
Layer no. or level	GSB layer		
Depth of hole	150mm		
Field density:	1	2	2
Chainage / Location	Kuvempu Nagara 2nd Stage Thetar Gate Opposite Rd @46	Varadharaju Nagara 1st Cross Rd Left Side @25	Varadharaju Nagara 6th A Cross Rd @49
Wt. of wet material from hole (Ww) gms.	5990	5968	5965
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10579	10588	10586
Wt. of sand in hole+ cone (w3) gms.	4421	4412	4414
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3341	3332	3334
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.36	2.36
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.76	98.76	98.65
% compaction required	98%	98%	98%

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Project	Package No.05 (Consists of 3 Works)	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS	
Contractor	Gopi Reddy K	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**21-01-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**Kamaru House Rd '@98**	**Kamaru House Rd '@139**
Wt. of wet material from hole (Ww) gms.	5973	5971
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10595	10590
Wt. of sand in hole+ cone (w3) gms.	4405	4410
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3325	3330
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.27	98.09
% compaction required	98%	98%

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

	Date:	**21-01-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:		
	1	**2**
Chainage	**1st Main Rd from end '@176**	**1st Main Rd from end '@273**
Wt. of wet material from hole (Ww) gms.	5964	5979
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10593	10589
Wt. of sand in hole+ cone (w3) gms.	4407	4411
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3327	3331
Bulk density of sand (ys)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (yb)=(Ww/w4*(ys))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.06	98.19
% compaction required	98%	98%

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Assistant Executive Engineer
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BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	21-01-2023
Type of Mix	:	DBM
Sample I/D	:	DBM-5

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	854	954
2. Weight of Mixture after extraction, g	817	913
3. Weight of Bitumen	37	41
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	39.00	43.00
8. Bitumen content in %	4.57	4.51
9. Average Bitumen content in %	4.54	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	Singapura Layout 5th A cross Road &Patanjali Shop Rd	**Date of Sampling:**	21-01-2023
		Date of testing:	21-01-2023
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	817

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	41.0	41.0	5.02	94.98	90-100
19.00	122.0	163.0	19.95	80.05	71-95
13.20	113.0	276.0	33.78	66.22	56-80
4.750	160.0	436.0	53.37	46.63	38-54
2.360	92.0	528.0	64.63	35.37	28-42
0.300	134.0	662.0	81.03	18.97	7-21
0.075	97.0	759.0	92.90	7.10	2-8
Pan	58.0	817.0			
Total	817.0				

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GRADATION FOR GSB
(As per MORT&H 400-1,Grading-II)

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	Gopi Reddy K
Date of Testing	:	21-01-2023
Type of Mix	:	GSB
Sample I/D	:	GSB5

Sample Location:	Varadharaju Nagara	Date of Sampling:	20-01-2023	
		Date of testing:	21-01-2023	
Type of material & Purpose:	GSB	Oven Dry Wt.(gms):	10000.0	

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
75	0	0	0.00	100.00	-
53	0	0	0.00	100.00	100.00
26.5	2125	2125	21.25	78.75	70-100
9.5	2409	4534	45.34	54.66	50-80
4.75	985	5519	55.19	44.81	40-65
2.36	1258	6777	67.77	32.23	30-50
0.425	1905	8682	86.82	13.18	10-15
0.075	900	9582	95.82	4.18	<5
Pan	418.0				
Total	10000.0				

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TEJUS CONSULTANTS
for
Authorised Signatory

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material		WMM		**Proposed Use**	**WMM**
Sample Location		Muniswamappa Garden and c/s Roads		**Date of Sampling**	**22-01-2023**
				Date of Testing	**23-01-2023**
Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	616	86	523	73
16.0	12.5	1126	116	989	114
12.5	10.0	772	61	721	58
10.0	6.3	616	58	561	41
Total		**3130**	**321**	**2794**	**286**

Note: Minimum 200 Pcs should be taken on each fraction of test

	Elongation Index(%):	10.24
	Combined FI+EL (%)	10.24
	Combined FI+EL (%)	20.47

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Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS, Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	23-01-2023
Type of Mix	:	WMM
Sample I/D	:	WMM 8

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Muniswamappa Garden and c/s Roads	**Date of Sampling:**	22-01-2023
		Date of testing:	23-01-2023
Type of material & Purpose:	WMM	**Oven Dry Wt.(gms):**	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	373	373	3.73	96.27	95-100
22.4	2393	2766	27.66	72.34	60-80
11.2	2447	5213	52.13	47.87	40-60
4.75	1503.0	6716	67.16	32.84	25-40
2.36	785.0	7501	75.01	24.99	15-30
0.6	825.0	8326	83.26	16.74	8.0-22.0
0.075	996.0	9322	93.22	6.78	0-8
Pan	678.0	10000			
Total	10000.0				

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Vidyaranyapura Sub Division
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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	WMM	**Date of Sampling**	**22-01-2023**
Sample Location	**Muniswamappa Garden**	**Date of Testing**	**23-01-2023**

Sl. No.	**Description**		**Test No.**			**Spec Limit (%)**
			1	**2**	**3**	
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	361.00	358.00	337.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	272.00	267.00	254.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	89.00	91.00	83.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	24.65	25.42	24.63	
5	Average Aggregate impact value	(%)	24.90			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	23-01-2023
Type of Mix :	Tack coat
Sample I/D :	1
Location	Singapura Paradies 6th Main Road

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location	**Chainage**	**@62**	**@96**	**@135**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.801	0.761	0.763
Final weight of plate after application of tack Coat (c)	Kg	0.824	0.784	0.786
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.254	0.251	0.252
Average	Kg/sq.m	0.253		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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AGGREGATE IMPACT VALUE
(IS: 2386 Part - 4)

Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	TEJUS CONSULTANTS, BANGALORE		
Contractor	Gopi Reddy K		
Proposed Use	BC	**Date of Sampling**	23-01-2023
Sample Location	At plant	**Date of Testing**	23-01-2023

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	372.00	350.00	354.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	281.00	268.00	273.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	91.00	82.00	81.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	24.46	23.43	22.88	
5	Average Aggregate impact value	(%)	23.59			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Project :	Package No.05 (Consists of 3 Works)		
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant :	TEJUS CONSULTANTS, BANGALORE		
Contractor:	Gopi Reddy K		
Type of Material	BC	**Proposed Use**	BC
Sample Location	At plant	**Date of Sampling**	23-01-2023
		Date of Testing	23-01-2023

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	813	71	917	72
16.0	12.5	1381	129	1251	124
12.5	10.0	536	71	442	63
10.0	6.3	461	62	432	60
Total		**3191**	**333**	**3042**	**319**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.44
Elongation Index(%):	10.49
Combined FI+EL (%)	20.92

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B.B.M.P, Bangalore - 97

TEJUS
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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	23-01-2023
Type of Mix :	BC
Sample I/D :	BC1

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	914	892
2. Weight of Mixture after extraction, g	866	845
3. Weight of Bitumen	48	47
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	49.60	49.00
8. Bitumen content in %	5.43	5.49
9. Average Bitumen content in %	**5.46**	
10. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION

(As per MORT&H 500-17,Grading-2)

Sample Location:	Singapura Paradies 6th Main Road	Date of Sampling:	23-01-2023
Type of material & Purpose:	**BC**	Date of testing:	23-01-2023
		Oven Dry Wt.(gms):	866.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	67	67.0	7.74	92.26	90 - 100
9.50	121	188.0	21.71	78.29	70 - 88
4.75	131	319.0	36.84	63.16	53 - 71
2.360	103	422.0	48.73	51.27	42 - 58
1.180	97	519.0	59.93	40.07	34 - 48
0.600	73	592.0	68.36	31.64	26 - 38
0.300	81	673.0	77.71	22.29	18 - 28
0.150	61	734.0	84.76	15.24	12 - 20
0.075	63	797.0	92.03	7.97	4 - 10
Pan	69.0	866.0			
Total	866.0				

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TEJUS CONSULTANTS

Authorised Signatory

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	Varadharaju Nagara and c/s Roads	**Date of Sampling**	**23-01-2023**
		Date of Testing	**24-01-2023**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	605	86	521	75
16.0	12.5	1122	119	987	110
12.5	10.0	776	60	727	55
10.0	6.3	618	59	561	46
Total		**3121**	**324**	**2796**	**286**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.38
Elongation Index(%):	10.23
Combined FI+EL (%)	20.61

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Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material		DBM		**Proposed Use**	**DBM**
Sample Location		At plant		**Date of Sampling**	**24-01-2023**
				Date of Testing	**24-01-2023**
Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	7851	681	7143	387
31.5	25.0	4223	207	3641	272
25.0	20.0	2417	293	1971	232
20.0	16.0	1521	363	1011	282
16.0	12.5	584	93	462	153
12.5	10.0	283	63	251	81
10.0	6.3	130	74	86	57
Total		**17009**	**1774**	**14565**	**1464**

Results

Flakiness Index(%):	10.43
Elongation Index(%):	10.05
Combined FI+EL (%)	20.48

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	24-01-2023
Type of Mix	:	WMM
Sample I/D	:	WMM 9

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Varadharaju Nagara and c/s Roads	**Date of Sampling:**	23-01-2023
		Date of testing:	24-01-2023
Type of material & Purpose:	WMM	**Oven Dry Wt.(gms):**	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	357	357	3.57	96.43	95-100
22.4	2520	2877	28.77	71.23	60-80
11.2	2490	5367	53.67	46.33	40-60
4.75	1421.0	6788	67.88	32.12	25-40
2.36	801.0	7589	75.89	24.11	15-30
0.6	833.0	8422	84.22	15.78	8.0-22.0
0.075	995.0	9417	94.17	5.83	0-8
Pan	583.0	10000			
Total	10000.0				

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Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	24-01-2023
Type of Mix :	BC
Sample I/D :	BC2

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	898	935
2. Weight of Mixture after extraction, g	851	886
3. Weight of Bitumen	47	49
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	48.60	51.00
8. Bitumen content in %	5.41	5.45
9. Average Bitumen content in %	**5.43**	
10. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-17,Grading-2)

Sample Location:	New Sai Garden 4th 3rd 2nd c/s Roads	Date of Sampling:	24-01-2023
Type of material & Purpose:	**BC**	Date of testing:	24-01-2023
		Oven Dry Wt.(gms):	851.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	72	72.0	8.46	91.54	90 - 100
9.50	120	192.0	22.56	77.44	70 - 88
4.75	112	304.0	35.72	64.28	53 - 71
2.360	118	422.0	49.59	50.41	42 - 58
1.180	98	520.0	61.10	38.90	34 - 48
0.600	72	592.0	69.57	30.43	26 - 38
0.300	74	666.0	78.26	21.74	18 - 28
0.150	64	730.0	85.78	14.22	12 - 20
0.075	73	803.0	94.36	5.64	4 - 10
Pan	48.0	851.0			
Total	851.0				

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore -97

TEJUS
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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	24-01-2023
Type of Mix :	Tack coat
Sample I/D :	2
Location	New Sai Garden 4th 3rd 2nd c/s Roads

Determination	Unit	Test No		
		1	2	3
Location	**Chainage**	**@39 4th c/s**	**@50 3rd c/s**	**@41 2nd c/s**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.757	0.793	0.801
Final weight of plate after application of tack Coat (c)	Kg	0.780	0.816	0.824
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.251	0.252	0.252
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	DBM	**Date of Sampling**	**24-01-2023**
Sample Location	At plant	**Date of Testing**	**24-01-2023**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	381.00	372.00	379.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	297.00	285.00	287.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	84.00	87.00	92.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	22.05	23.39	24.27	
5	Average Aggregate impact value	(%)	23.24			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Project	Package No.05 (Consists of 3 Works)	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS	
Contractor	Gopi Reddy K	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**24-01-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**Acchi Store Rd '@93**	**Acchi Store Rd '@122**
Wt. of wet material from hole (Ww) gms.	5974	5971
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10597	10594
Wt. of sand in hole+ cone (w3) gms.	4403	4406
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3323	3326
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.34	98.21
% compaction required	98%	98%

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Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
CONSULTANTS

Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	Gopi Reddy K		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	24-01-2023		
Layer no. or level	GSB layer		
Depth of hole	150mm		
Field density:	1	2	2
Chainage / Location	Varadharaju Nagara Axis Bank Opposite Rd @78	Varadharaju Nagara Axis Bank Opposite Rd @129	Singapura Garden 4th D Cross Rd @36
Wt. of wet material from hole (Ww) gms.	5979	5968	5990
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10581	10585	10576
Wt. of sand in hole+ cone (w3) gms.	4419	4415	4424
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3339	3335	3344
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.36	2.36	2.36
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.64	98.67	98.77
% compaction required	98%	98%	98%

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	Gopi Reddy K		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	24-01-2023		
Layer no. or level	GSB layer		
Depth of hole	150mm		
Field density:	1	2	2
Chainage / Location	**Varadharaju Nagara 3rd A Cross Rd @46**	**Varadharaju Nagara 5th Cross Rd Right Side @69**	**Varadharaju Nagara 5th Cross Rd Right Side @136**
Wt. of wet material from hole (Ww) gms.	5993	5972	5966
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10575	10586	10587
Wt. of sand in hole+ cone (w3) gms.	4425	4414	4413
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3345	3334	3333
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.36	2.36	2.36
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.22	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.69	98.77	98.70
% compaction required	98%	98%	98%

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Project	Package No.05 (Consists of 3 Works)	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS	
Contractor	Gopi Reddy K	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**25-01-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**Varadharaju Nagara 1st Cross Rd Left Side '@25**	**Varadharaju Nagara 2nd Cross Rd Left Side '@54**
Wt. of wet material from hole (Ww) gms.	5970	5968
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10592	10589
Wt. of sand in hole+ cone (w3) gms.	4408	4411
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3328	3331
Bulk density of sand (ys)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (yb)=(Ww/w4*(ys))gm/cc	2.37	2.36
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.22
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.13	98.01
% compaction required	98%	98%

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Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
CONSULTANTS

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	25-01-2023
Type of Mix :	BC
Sample I/D :	BC3

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	963	905
2. Weight of Mixture after extraction, g	912	858
3. Weight of Bitumen	51	47
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	52.60	49.00
8. Bitumen content in %	5.46	5.41
9. Average Bitumen content in %	**5.44**	
10. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION

(As per MORT&H 500-17,Grading-2)

Sample Location:	Ganesh Layout and cross Roads	Date of Sampling:	25-01-2023
Type of material & Purpose:	BC	Date of testing:	25-01-2023
		Oven Dry Wt.(gms):	912.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	77	77.0	8.44	91.56	90 - 100
9.50	119	196.0	21.49	78.51	70 - 88
4.75	141	337.0	36.95	63.05	53 - 71
2.360	107	444.0	48.68	51.32	42 - 58
1.180	113	557.0	61.07	38.93	34 - 48
0.600	87	644.0	70.61	29.39	26 - 38
0.300	77	721.0	79.06	20.94	18 - 28
0.150	61	782.0	85.75	14.25	12 - 20
0.075	73	855.0	93.75	6.25	4 - 10
Pan	57.0	912.0			
Total	912.0				

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TEJUS CONSULTANTS

Authorised Signatory

Asst. Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
CONSULTANTS

BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	25-01-2023
Type of Mix	:	DBM
Sample I/D	:	DBM-6

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	894	922
2. Weight of Mixture after extraction, g	855	882
3. Weight of Bitumen	39	40
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	41.00	42.00
8. Bitumen content in %	4.59	4.56
9. Average Bitumen content in %	4.57	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION
(As per MORT&H 500-10,Grading-2)

Sample Location:	1st Main Rd from end	**Date of Sampling:**	25-01-2023
		Date of testing:	25-01-2023
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	855

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	55.0	55.0	6.43	93.57	90-100
19.00	122.0	177.0	20.70	79.30	71-95
13.20	118.0	295.0	34.50	65.50	56-80
4.750	152.0	447.0	52.28	47.72	38-54
2.360	98.0	545.0	63.74	36.26	28-42
0.300	189.0	734.0	85.85	14.15	7-21
0.075	65.0	799.0	93.45	6.55	2-8
Pan	56.0	56.0			
Total	855.0				

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TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	25-01-2023
Type of Mix :	Tack coat
Sample I/D :	3
Location	Ganesh Layout and cross Roads

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location	**Chainage**	**@72 3rd c/s**	**@69 4th c/s**	**@163 Main Rd**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.801	0.762	0.751
Final weight of plate after application of tack Coat (c)	Kg	0.824	0.785	0.774
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.253	0.254	0.253
Average	Kg/sq.m	0.254		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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DETERMINATION OF RATE OF SPREAD TACK COAT				
Name of Work :	Package No.05 (Consists of 3 Works)			
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE			
Consultant :	M/s Tejus Consultants			
Contractor :	Gopi Reddy K			
Date of Testing :	25-01-2023			
Type of Mix :	Tack coat			
Sample I/D :	6			
Location :	1st Main Rd from end			
Determination	**Unit**	**Test No**		
		1	**2**	**3**
Chainage		**@129**	**@267**	**@395**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.802	0.769	0.774
Final weight of plate after application of tack Coat (c)	Kg	0.825	0.792	0.797
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.252	0.254	0.253
Average	Kg/sq.m	0.253		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Vidyaranyapura Sub Division
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GRADATION FOR GSB
(As per MORT&H 400-1,Grading-II)

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	Gopi Reddy K
Date of Testing	:	25-01-2023
Type of Mix	:	GSB
Sample I/D	:	GSB6

Sample Location:	Vasbalanagara	**Date of Sampling:**	24-01-2023	
		Date of testing:	25-01-2023	
Type of material & Purpose:	GSB	**Oven Dry Wt.(gms):**	10000.0	

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
75	0	0	0.00	100.00	-
53	0	0	0.00	100.00	100.00
26.5	2190	2190	21.90	78.10	70-100
9.5	2512	4702	47.02	52.98	50-80
4.75	870	5572	55.72	44.28	40-65
2.36	1222	6794	67.94	32.06	30-50
0.425	1962	8756	87.56	12.44	10-15
0.075	826	9582	95.82	4.18	<5
Pan	418.0				
Total	10000.0				

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B.B.M.P, Bangalore - 97

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	Vasbalanagara and cross Roads	**Date of Sampling**	**27-01-2023**
		Date of Testing	**28-01-2023**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	610	85	521	77
16.0	12.5	1124	116	990	113
12.5	10.0	780	56	727	57
10.0	6.3	600	59	564	47
Total		**3114**	**316**	**2802**	**294**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.15
Elongation Index(%):	10.49
Combined FI+EL (%)	20.64

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Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Project	Package No.05 (Consists of 3 Works)	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS	
Contractor	Gopi Reddy K	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**27-01-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**Varadharaju Nagara 5th Cross Rd Right Side '@62**	**Varadharaju Nagara Axis Bank Opposite Rd '@108**
Wt. of wet material from hole (Ww) gms.	5972	5973
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10597	10588
Wt. of sand in hole+ cone (w3) gms.	4403	4412
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3323	3332
Bulk density of sand (ys)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (yb)=(Ww/w4*(ys))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.31	98.06
% compaction required	98%	98%

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Project	Package No.05 (Consists of 3 Works)	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS	
Contractor	Gopi Reddy K	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**27-01-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**Varadharaju Nagara 3rd A c/s Rd '@39**	**Varadharaju Nagara 2nd A c/s Rd '@61**
Wt. of wet material from hole (Ww) gms.	5973	5996
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10594	10587
Wt. of sand in hole+ cone (w3) gms.	4406	4413
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3326	3333
Bulk density of sand (ys)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (yb)=(Ww/w4*(ys))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100yb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.24	98.41
% compaction required	98%	98%

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Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	Gopi Reddy K		
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28))			
Date of Testing	27-01-2023		
Layer no. or level	GSB layer		
Depth of hole	150mm		
Field density:	1	2	2
Chainage / Location	Vasbalanagara 5th Cross Rd @69	Vasbalanagara Thirumala Store Rd @55	Vasbalanagara 3rd Main 5th Cross Rd @144
Wt. of wet material from hole (Ww) gms.	5988	5982	5992
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10578	10586	10576
Wt. of sand in hole+ cone (w3) gms.	4422	4414	4424
Wt. of cone gms.	1080	1080	1080
Wt. of sand gms.	3342	3334	3344
Bulk density of sand (γs)gm/cc	1.32	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.37	2.37
Moisture meter reading(moisture content)	6.50	6.40	6.40
Result			
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.22	2.23	2.22
MDD	2.25	2.25	2.25
OMC	6.30%	6.30%	6.30%
% compaction obtained	98.70	98.93	98.80
% compaction required	98%	98%	98%

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B.B.M.P, Bangalore - 97

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Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	28-01-2023
Type of Mix	:	WMM
Sample I/D	:	WMM 10

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Vasbalanagara and cross Roads	**Date of Sampling:**	27-01-2023
		Date of testing:	28-01-2023
Type of material & Purpose:	WMM	**Oven Dry Wt.(gms):**	10000.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	369	369	3.69	96.31	95-100
22.4	2363	2732	27.32	72.68	60-80
11.2	2482	5214	52.14	47.86	40-60
4.75	1587.0	6801	68.01	31.99	25-40
2.36	797.0	7598	75.98	24.02	15-30
0.6	820.0	8418	84.18	15.82	8.0-22.0
0.075	997.0	9415	94.15	5.85	0-8
Pan	585.0	10000			
Total	10000.0				

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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DETERMINATION OF RATE OF SPREAD TACK COAT				
Name of Work :	Package No.05 (Consists of 3 Works)			
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE			
Consultant :	M/s Tejus Consultants			
Contractor :	Gopi Reddy K			
Date of Testing :	28-01-2023			
Type of Mix :	Tack coat			
Sample I/D :	7			
Location :	Acchi Store Rd			
Determination	**Unit**	**Test No**		
		1	**2**	**3**
Chainage		**@58**	**@96**	**@125**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.745	0.769	0.744
Final weight of plate after application of tack Coat (c)	Kg	0.768	0.792	0.767
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.253	0.252	0.252
Average	Kg/sq.m	0.253		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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B.B.M.P, Bangalore - 97

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TEJUS
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BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	28-01-2023
Type of Mix	:	DBM
Sample I/D	:	DBM-7

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	879	911
2. Weight of Mixture after extraction, g	841	872
3. Weight of Bitumen	38	39
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	40.00	41.00
8. Bitumen content in %	4.55	4.50
9. Average Bitumen content in %	4.53	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	Acchi Store Rd	**Date of Sampling:**	28-01-2023
		Date of testing:	28-01-2023
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	841

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	48.0	48.0	5.71	94.29	90-100
19.00	122.0	170.0	20.21	79.79	71-95
13.20	118.0	288.0	34.24	65.76	56-80
4.750	145.0	433.0	51.49	48.51	38-54
2.360	102.0	535.0	63.61	36.39	28-42
0.300	175.0	710.0	84.42	15.58	7-21
0.075	75.0	785.0	93.34	6.66	2-8
Pan	56.0	56.0			
Total	841.0				

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Project	Package No.05 (Consists of 3 Works)	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS	
Contractor	Gopi Reddy K	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**30-01-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**Vasbalanagara 5th Cross Rd '@92**	**Vasbalanagara Thirumala Store Rd '@69**
Wt. of wet material from hole (Ww) gms.	5975	5974
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10598	10589
Wt. of sand in hole+ cone (w3) gms.	4402	4411
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3322	3331
Bulk density of sand (γs)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (γb)=(Ww/w4*(γs))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.39	98.11
% compaction required	98%	98%

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

	Date:	**30-01-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**Vasbalanagara3rd Main 5th Cross Rd '@72**	**Vasbalanagara3rd Main 5th Cross Rd '@332**
Wt. of wet material from hole (Ww) gms.	5977	5989
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10599	10586
Wt. of sand in hole+ cone (w3) gms.	4401	4414
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3321	3334
Bulk density of sand (ys)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (yb)=(Ww/w4*(ys))gm/cc	2.38	2.37
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.45	98.27
% compaction required	98%	98%

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material	WMM	**Proposed Use**	**WMM**
Sample Location	Balaji Layout Main Road	**Date of Sampling**	**30-01-2023**
		Date of Testing	**31-01-2023**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	606	86	521	73
16.0	12.5	1122	116	988	116
12.5	10.0	774	52	732	57
10.0	6.3	610	61	561	46
Total		**3112**	**315**	**2802**	**292**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.12
Elongation Index(%):	10.42
Combined FI+EL (%)	20.54

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4.The material used in the site satisfied the standard of MORTH's 5th revision and hence can be used in the work.

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Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	31-01-2023
Type of Mix	:	WMM
Sample I/D	:	WMM 11

GRADATION FOR WMM
(As per MORT&H 400-11)

Sample Location:	Balaji Layout Main Road	**Date of Sampling:**	30-01-2023	
		Date of testing:	31-01-2023	
Type of material & Purpose:	WMM	**Oven Dry Wt.(gms):**	10000.0	

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	369	369	3.69	96.31	95-100
22.4	2415	2784	27.84	72.16	60-80
11.2	2485	5269	52.69	47.31	40-60
4.75	1477.0	6746	67.46	32.54	25-40
2.36	795.0	7541	75.41	24.59	15-30
0.6	823.0	8364	83.64	16.36	8.0-22.0
0.075	989.0	9353	93.53	6.47	0-8
Pan	647.0	10000			
Total	10000.0				

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B.B.M.P, Bangalore-97

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DETERMINATION OF RATE OF SPREAD TACK COAT				
Name of Work :	Package No.05 (Consists of 3 Works)			
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE			
Consultant :	M/s Tejus Consultants			
Contractor :	Gopi Reddy K			
Date of Testing :	31-01-2023			
Type of Mix :	Tack coat			
Sample I/D :	8			
Location :	Varadharaju Nagara and Cross Roads(3rd, 6th A, 4th A			
Determination	**Unit**	**Test No**		
		1	2	3
Chainage		@39 3rd	@46 6th A	@68 4th A
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.794	0.782	0.763
Final weight of plate after application of tack Coat (c)	Kg	0.817	0.805	0.786
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.253	0.253	0.252
Average	Kg/sq.m	0.253		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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TEJUS
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BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	31-01-2023
Type of Mix	:	DBM
Sample I/D	:	DBM-8

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	885	925
2. Weight of Mixture after extraction, g	847	885
3. Weight of Bitumen	38	40
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	40.00	42.00
8. Bitumen content in %	4.52	4.54
9. Average Bitumen content in %	4.53	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	Varadharaju Nagara and Cross Roads(3rd, 6th A, 4th A)	**Date of Sampling:**	31-01-2023
		Date of testing:	31-01-2023
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	847

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	45.0	45.0	5.31	94.69	90-100
19.00	123.0	168.0	19.83	80.17	71-95
13.20	118.0	286.0	33.77	66.23	56-80
4.750	152.0	438.0	51.71	48.29	38-54
2.360	99.0	537.0	63.40	36.60	28-42
0.300	185.0	722.0	85.24	14.76	7-21
0.075	65.0	787.0	92.92	7.08	2-8
Pan	60.0	60.0			
Total	847.0				

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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	01-02-2023
Type of Mix :	BC
Sample I/D :	BC4

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	890	906
2. Weight of Mixture after extraction, g	843	859
3. Weight of Bitumen	47	47
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	48.60	49.00
8. Bitumen content in %	5.46	5.41
9. Average Bitumen content in %	**5.43**	
10. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-17,Grading-2)

Sample Location:	Ganesh Layout and cross Roads	Date of Sampling:	01-02-2023
Type of material & Purpose:	**BC**	Date of testing:	01-02-2023
		Oven Dry Wt.(gms):	843.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	53	53.0	6.29	93.71	90 - 100
9.50	101	154.0	18.27	81.73	70 - 88
4.75	125	279.0	33.10	66.90	53 - 71
2.360	118	397.0	47.09	52.91	42 - 58
1.180	103	500.0	59.31	40.69	34 - 48
0.600	78	578.0	68.56	31.44	26 - 38
0.300	77	655.0	77.70	22.30	18 - 28
0.150	63	718.0	85.17	14.83	12 - 20
0.075	62	780.0	92.53	7.47	4 - 10
Pan	63.0	843.0			
Total	843.0				

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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	01-02-2023
Type of Mix :	Tack coat
Sample I/D :	4
Location	Ganesh Layout and cross Roads

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location	**Chainage**	**@32 5th Mn left**	**@41 5th Mn Right**	**@45 5th Mn Right**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.777	0.757	0.797
Final weight of plate after application of tack Coat (c)	Kg	0.800	0.780	0.820
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.251	0.251	0.251
Average	Kg/sq.m	0.251		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Project :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor:	Gopi Reddy K

Type of Material	BC	**Proposed Use**	BC
Sample Location	At plant	**Date of Sampling**	01-02-2023
		Date of Testing	01-02-2023

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	786	75	951	77
16.0	12.5	1381	131	1228	114
12.5	10.0	514	67	467	61
10.0	6.3	491	51	441	71
Total		**3172**	**324**	**3087**	**323**

Note: Minimum 200 Pcs should be taken on each fraction of test

	Flakiness Index(%):	10.21
	Elongation Index(%):	10.46
	Combined FI+EL (%)	20.68

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AGGREGATE IMPACT VALUE
(IS: 2386 Part - 4)

Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	TEJUS CONSULTANTS, BANGALORE		
Contractor	Gopi Reddy K		
Proposed Use	BC	**Date of Sampling**	01-02-2023
Sample Location	At plant	**Date of Testing**	01-02-2023

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	372.00	352.00	356.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	281.00	268.00	273.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	91.00	84.00	83.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	24.46	23.86	23.31	
5	Average Aggregate impact value	(%)	23.88			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Type of Material		DBM		**Proposed Use**	**DBM**
Sample Location		At plant		**Date of Sampling**	**01-02-2023**
				Date of Testing	**01-02-2023**
Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	7345	675	7014	364
31.5	25.0	4221	263	3512	245
25.0	20.0	2445	233	1884	264
20.0	16.0	1546	316	964	240
16.0	12.5	583	102	469	195
12.5	10.0	492	64	282	84
10.0	6.3	136	80	75	60
Total		**16768**	**1733**	**14200**	**1452**

Results

Flakiness Index(%):	10.34
Elongation Index(%):	10.23
Combined FI+EL (%)	20.56

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Project	Package No.05 (Consists of 3 Works)
Client	Bruhat Bengaluru Mahanagara Palike
Consultant	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

AGGREGATE IMPACT VALUE (IS: 2386 Part - 4)

Proposed Use	DBM	**Date of Sampling**	**01-02-2023**
Sample Location	At plant	**Date of Testing**	**01-02-2023**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	389.00	384.00	360.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	295.00	288.00	274.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	94.00	96.00	86.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	24.16	25.00	23.89	
5	Average Aggregate impact value	(%)	24.35			Max - 30 %

Remarks : ✓ Satisfactory / Not Satisfactory

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Project	Package No.05 (Consists of 3 Works)	
Client	Bruhat Bengaluru Mahanagara Palike	
Consultant	TEJUS CONSULTANTS	
Contractor	Gopi Reddy K	
Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)		
	Date:	**01-02-2023**
Layer no. or level	WMM I layer	
Depth of hole	230mm	
Field density:	**1**	**2**
Chainage	**Balaji layout Main Rd'@32**	**Balaji layout Main Rd'@73**
Wt. of wet material from hole (Ww) gms.	5969	5972
Wt. of sand+cylinder before pouring (w1) gms.	15000	15000
Wt. of sand+cylinder after pouring (w2) gms.	10597	10591
Wt. of sand in hole+ cone (w3) gms.	4403	4409
Wt. of cone gms.	1080	1080
Wt. of sand gms.	3323	3329
Bulk density of sand (ys)gm/cc	1.32	1.32
Bulk density of material(i.e. wt. of the wet material) (yb)=(Ww/w4*(ys))gm/cc	2.37	2.37
Moisture meter reading(moisture content)	6.30	6.30
Result		
FDD(Wt.of the dry material)=(100γb/100+mc)gm/cc	2.23	2.23
MDD	2.27	2.27
OMC	6.10%	6.10%
% compaction obtained	98.26	98.13
% compaction required	98%	98%

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BBMP, Bangalore

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TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

SPECIFIC GRAVITY AND WATER ABSORPTION
FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**M sand**	**Proposed Use**	Concrete
Location/Source	**At Plant**	**Date of Sampling**	01-02-2023
Period of Soaking	**24 hours**	**Date of Testing**	02-02-2023

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.	673	652	674	
B	Weight of oven - dry sample gm.	664	644	666	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1698	1684	1698	
E	Bulk specific gravity B / (C + A - D)	2.656	2.650	2.653	**2.653**
G	Absorption (%) (A - B) *100 / B	1.355	1.242	1.201	**1.266**

Remarks : Satisfactory / Not Satisfactory

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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	02-02-2023
Type of Mix :	BC
Sample I/D :	BC5

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	898	942
2. Weight of Mixture after extraction, g	851	893
3. Weight of Bitumen	47	49
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	48.60	51.00
8. Bitumen content in %	5.41	5.41
9. Average Bitumen content in %	**5.41**	
10. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-17,Grading-2)

Sample Location:	Balaji Layout and Cross Roads	Date of Sampling:	02-02-2023
Type of material & Purpose:	BC	Date of testing:	02-02-2023
		Oven Dry Wt.(gms):	851.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	72	72.0	8.46	91.54	90 - 100
9.50	101	173.0	20.33	79.67	70 - 88
4.75	135	308.0	36.19	63.81	53 - 71
2.360	105	413.0	48.53	51.47	42 - 58
1.180	100	513.0	60.28	39.72	34 - 48
0.600	80	593.0	69.68	30.32	26 - 38
0.300	75	668.0	78.50	21.50	18 - 28
0.150	62	730.0	85.78	14.22	12 - 20
0.075	72	802.0	94.24	5.76	4 - 10
Pan	49.0	851.0			
Total	851.0				

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TEJUS CONSULTANTS

Authorised Signatory

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
CONSULTANTS

DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	02-02-2023
Type of Mix :	Tack coat
Sample I/D :	5
Location	Balaji Layout and Cross Roads

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location	**Chainage**	**@52 2nd c/s**	**@39 3rd c/s**	**@91 Main Rd**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.754	0.801	0.796
Final weight of plate after application of tack Coat (c)	Kg	0.777	0.824	0.819
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.251	0.252	0.252
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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TEJUS CONSULTANTS
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TEJUS
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BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	02-02-2023
Type of Mix	:	DBM
Sample I/D	:	DBM-9

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	889	915
2. Weight of Mixture after extraction, g	851	875
3. Weight of Bitumen	38	40
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	40.00	42.00
8. Bitumen content in %	4.50	4.59
9. Average Bitumen content in %	4.54	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	Varadharaju Nagara and Cross Roads(3rd A,5th Cross Rd Right Side , Axis Bank Opposite Rd)	**Date of Sampling:**	02-02-2023
		Date of testing:	02-02-2023
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	851

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	43.0	43.0	5.05	94.95	90-100
19.00	122.0	165.0	19.39	80.61	71-95
13.20	123.0	288.0	33.84	66.16	56-80
4.750	155.0	443.0	52.06	47.94	38-54
2.360	98.0	541.0	63.57	36.43	28-42
0.300	189.0	730.0	85.78	14.22	7-21
0.075	65.0	795.0	93.42	6.58	2-8
Pan	56.0	56.0			
Total	851.0				

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

Consultant's Representative

DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	Gopi Reddy K
Date of Testing :	02-02-2023
Type of Mix :	Tack coat
Sample I/D :	9
Location :	Varadharaju Nagara and Cross Roads(3rd A,5th Cross Rd Right Side , Axis Bank Opposite Rd)

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Chainage		**@59 3rd A**	**@93 5th c/s**	**@146(Axis)**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.764	0.749	0.758
Final weight of plate after application of tack Coat (c)	Kg	0.787	0.772	0.781
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.252	0.251	0.253
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

SIEVE ANALYSIS

Total Weight:	3000 gms				
Type of Materia	**M sand**		**Proposed Use**	Concrete	
Sample Location	At Plant/site		**Date of Sampling**	02-02-2023	
			Date of Testing	02-02-2023	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing (Zone-II)**
10.00 mm	0	0	0	100.00	**100**
4.75 mm	209	209	6.97	93.03	**90 - 100**
2.36 mm	266	475	15.83	84.17	**75 - 100**
1.18 mm	555	1030	34.33	65.67	**55 - 90**
0.600 mm	559	1589	52.97	47.03	**35 -59**
0.300 mm	669	2258	75.27	24.73	**8-30**
0.150 mm	524	2782	92.73	7.27	**0 - 10**
Pan	218	3000			**-**

Remarks : Satisfactory / Not Satisfactory

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TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	Gopi Reddy K
Date of Testing :	03-02-2023
Type of Mix :	Tack coat
Sample I/D :	10
Location :	Vasbalanagara 3rd Main 5th c/s Road

Determination	Unit	Test No		
		1	2	3
Chainage		**@154**	**@269**	**@462**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.785	0.776	0.794
Final weight of plate after application of tack Coat (c)	Kg	0.808	0.799	0.817
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.253	0.254	0.251
Average	Kg/sq.m	0.253		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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B.B.M.P, Bangalore - 97

TEJUS
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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	03-02-2023
Type of Mix :	BC
Sample I/D :	BC6

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	928	957
2. Weight of Mixture after extraction, g	879	907
3. Weight of Bitumen	49	50
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	50.60	52.00
8. Bitumen content in %	5.45	5.43
9. Average Bitumen content in %	**5.44**	
10. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-17,Grading-2)

Sample Location:	Singapura Layout and Cross Roads	Date of Sampling:	03-02-2023
Type of material & Purpose:	**BC**	Date of testing:	03-02-2023
		Oven Dry Wt.(gms):	879.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	74	74.0	8.42	91.58	90 - 100
9.50	116	190.0	21.62	78.38	70 - 88
4.75	123	313.0	35.61	64.39	53 - 71
2.360	103	416.0	47.33	52.67	42 - 58
1.180	106	522.0	59.39	40.61	34 - 48
0.600	83	605.0	68.83	31.17	26 - 38
0.300	87	692.0	78.73	21.27	18 - 28
0.150	68	760.0	86.46	13.54	12 - 20
0.075	62	822.0	93.52	6.48	4 - 10
Pan	57.0	879.0			
Total	879.0				

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	03-02-2023
Type of Mix :	Tack coat
Sample I/D :	6
Location	Singapura Layout and Cross Roads

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location	**Chainage**	**@69 2nd c/s**	**@123 3rd c/s**	**@152 4th c/s**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.768	0.784	0.754
Final weight of plate after application of tack Coat (c)	Kg	0.791	0.807	0.777
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.253	0.254	0.253
Average	Kg/sq.m	0.254		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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BITUMEN CONTENT AND GRADATION DETERMINATION OF DENSE BITUMINOUS MACADAM MIX

Name of Work	:	Package No.05 (Consists of 3 Works)
Client	:	Bruhat Bengaluru Mahanagara Palike
Consultant	:	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	:	Gopi Reddy K
Date of Testing	:	03-02-2023
Type of Mix	:	DBM
Sample I/D	:	DBM-10

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	936	905
2. Weight of Mixture after extraction, g	895	866
3. Weight of Bitumen	41	39
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.00	4.00
6. Weight of fines, g	2.00	2.00
7. Weight of Bitumen & fines	43.00	41.00
8. Bitumen content in %	4.59	4.53
9. Average Bitumen content in %	4.56	
10. Minimum Bitumen content in %	4.50	

GRADATION FOR DBM AFTER EXTRACTION

(As per MORT&H 500-10,Grading-2)

Sample Location:	Vasbalanagara 3rd Main 5th c/s Road	**Date of Sampling:**	03-02-2023
		Date of testing:	03-02-2023
Type of material & Purpose:	DBM	**Oven Dry Wt.(gms):**	895

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
37.50	0.0	0.0	0.00	100.00	100.00
26.50	72.0	72.0	8.04	91.96	90-100
19.00	132.0	204.0	22.79	77.21	71-95
13.20	116.0	320.0	35.75	64.25	56-80
4.750	163.0	483.0	53.97	46.03	38-54
2.360	108.0	591.0	66.03	33.97	28-42
0.300	169.0	760.0	84.92	15.08	7-21
0.075	72.0	832.0	92.96	7.04	2-8
Pan	63.0	63.0			
Total	895.0				

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B.B.M.P, Bangalore - 97

TEJUS CONSULTANTS

Consultant's Representative

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TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

SPECIFIC GRAVITY AND WATER ABSORPTION
FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**M sand**	**Proposed Use**	Concrete
Location/Source	**At Plant**	**Date of Sampling**	06-02-2023
Period of Soaking	**24 hours**	**Date of Testing**	07-02-2023

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.	663	640	670	
B	Weight of oven - dry sample gm.	653	632	662	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1692	1678	1696	
E	Bulk specific gravity B / (C + A - D)	2.654	2.667	2.659	**2.660**
G	Absorption (%) (A - B) *100 / B	1.531	1.266	1.208	**1.335**

Remarks : Satisfactory / Not Satisfactory

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Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEST REPORT	
Clients	Bruhat Bangalore Mahanagara Palike
Project	Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

SIEVE ANALYSIS

Total Weight:	**3000** gms				
Type of Materia	**M sand**		**Proposed Use**	Concrete	
Sample Location	At Plant		**Date of Sampling**	07-02-2023	
			Date of Testing	07-02-2023	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing (Zone-II)**
10.00 mm	0	0	0	100.00	**100**
4.75 mm	235	235	7.83	92.17	**90 - 100**
2.36 mm	281	516	17.20	82.80	**75 - 100**
1.18 mm	515	1031	34.37	65.63	**55 - 90**
0.600 mm	544	1575	52.50	47.50	**35 -59**
0.300 mm	663	2238	74.60	25.40	**8-30**
0.150 mm	535	2773	92.43	7.57	**0 - 10**
Pan	227	3000			**-**

Remarks : ✓ Satisfactory / Not Satisfactory

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AGGREGATE IMPACT VALUE
(IS: 2386 Part - 4)

Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	TEJUS CONSULTANTS, BANGALORE		
Contractor	Gopi Reddy K		
Proposed Use	BC	**Date of Sampling**	10-02-2023
Sample Location	At plant	**Date of Testing**	10-02-2023

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	372.00	353.00	353.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	281.00	268.00	276.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	91.00	85.00	77.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	24.46	24.08	21.81	
5	Average Aggregate impact value	(%)	23.45			Max - 30 %

Remarks : ✓ Satisfactory / Not Satisfactory

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Assistant Executive Engineer
Vidyaranyapura Sub Division
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FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Project :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor:	Gopi Reddy K

Type of Material	BC	**Proposed Use**	BC
Sample Location	At plant	**Date of Sampling**	10-02-2023
		Date of Testing	10-02-2023

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	833	73	932	81
16.0	12.5	1391	131	1221	116
12.5	10.0	512	77	454	57
10.0	6.3	511	52	463	73
Total		3247	333	3070	327

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.26
Elongation Index(%):	10.65
Combined FI+EL (%)	20.91

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TEST REPORT						
Clients	Bruhat Bangalore Mahanagara Palike					
Project	Package No.05 (Consists of 3 Works)					
Consultants	TEJUS CONSULTANTS					
Contractor	Gopi Reddy K					
Total Weight:	10000	gms				
SIEVE ANALYSIS						
Type of Material	20 mm down size		**Proposed Use**	Concrete		
Sample Location	At Plant		**Date of Sampling**	10-02-2023		
			Date of Testing	11-02-2023		
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**	
40.00 mm	0	0	0	100	**100**	
20.00 mm	275	275	2.75	97.25	**95 - 100**	
10.00 mm	4833	5108	51.08	48.92	**25 - 55**	
4.75 mm	4366	9474	94.74	5.26	**0 - 10**	
Pan	526	10000				

Remarks : - ✓ Satisfactory / Not Satisfactory

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TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Package No.05 (Consists of 3 Works)	
Consultants	TEJUS CONSULTANTS	
Contractor	Gopi Reddy K	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**	**Proposed Use**	Concrete
Sample Location	Plant	**Date of Sampling**	10-02-2023
		Date of Testing	11-02-2023

IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	567	567	5.67	94.33	90-100
10.0	3369	3936	39.36	60.64	40-85
4.75	5428	9364	93.64	6.36	0-10
Pan	636	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

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TEJUS CONSULTANTS

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

SPECIFIC GRAVITY AND WATER ABSORPTION
FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**M sand**	**Proposed Use**	Concrete
Location/Source	**At Plant/site**	**Date of Sampling**	10-02-2023
Period of Soaking	**24 hours**	**Date of Testing**	11-02-2023

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.	662	640	670	
B	Weight of oven - dry sample gm.	653	632	662	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1692	1678	1696	
E	Bulk specific gravity B / (C + A - D)	2.665	2.667	2.659	**2.664**
G	Absorption (%) (A - B) *100 / B	1.378	1.266	1.208	**1.284**

Remarks : Satisfactory / Not Satisfactory

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TEST REPORT	
Clients	Bruhat Bangalore Mahanagara Palike
Project	Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

SIEVE ANALYSIS

Total Weight:	**3000** gms				
Type of Materia	**M sand**		**Proposed Use**	Concrete	
Sample Location	At Plant		**Date of Sampling**	11-02-2023	
			Date of Testing	11-02-2023	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing (Zone-II)**
10.00 mm	0	0	0	100.00	**100**
4.75 mm	228	228	7.60	92.40	**90 - 100**
2.36 mm	285	513	17.10	82.90	**75 - 100**
1.18 mm	511	1024	34.13	65.87	**55 - 90**
0.600 mm	544	1568	52.27	47.73	**35 -59**
0.300 mm	665	2233	74.43	25.57	**8-30**
0.150 mm	533	2766	92.20	7.80	**0 - 10**
Pan	234	3000			**-**

Remarks : Satisfactory / Not Satisfactory

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TEJUS
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Test Report on Cement

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Sample ID	Cement (OPC 43 Grade)
Date of Sample Tested	11-02-2023
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	104 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	468 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	5mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	

Remarks : Satisfactory / Not Satisfactory

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Vidyaranyapura Sub Division
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TEJUS
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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	13-02-2023
Type of Mix :	Tack coat
Sample I/D :	7
Location	Singapura Layout and Cross Roads

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location	**Chainage**	**@123 6th C/s Rd**	**@69 Patanjali**	**@130 3rd Mn Rd**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.781	0.803	0.766
Final weight of plate after application of tack Coat (c)	Kg	0.804	0.826	0.789
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.253	0.254	0.253
Average	Kg/sq.m	0.254		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Authorised Signatory

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TEJUS
CONSULTANTS

Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:63 Devappa Layout 2nd cross Road (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	13-02-2023	13-03-2023	28 days	8.205	22500	685	30.44	30.58
2	13-02-2023	13-03-2023	28 days	8.166	22500	691	30.71	
3	13-02-2023	13-03-2023	28 days	8.147	22500	688	30.58	

Remarks : Satisfactory / Not Satisfactory

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:63 Devappa Layout 2nd cross Road (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	13-02-2023	20-02-2023	7 days	8.822	22500	449	19.96	19.84
2	13-02-2023	20-02-2023	7 days	8.833	22500	445	19.78	
3	13-02-2023	20-02-2023	7 days	8.871	22500	445	19.78	

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:152 Devappa Layout Main Road (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	13-02-2023	13-03-2023	28 days	8.129	22500	689	30.62	30.68
2	13-02-2023	13-03-2023	28 days	8.169	22500	690	30.67	
3	13-02-2023	13-03-2023	28 days	8.175	22500	692	30.76	

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:152 Devappa Layout Main Road (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	13-02-2023	20-02-2023	7 days	8.133	22500	446	19.82	19.81
2	13-02-2023	20-02-2023	7 days	8.148	22500	447	19.87	
3	13-02-2023	20-02-2023	7 days	8.173	22500	444	19.73	

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TEJUS
CONSULTANTS

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	13-02-2023
Type of Mix :	BC
Sample I/D :	BC7

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	911	956
2. Weight of Mixture after extraction, g	863	906
3. Weight of Bitumen	48	50
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	49.60	52.00
8. Bitumen content in %	5.44	5.44
9. Average Bitumen content in %	**5.44**	
10. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-17,Grading-2)

Sample Location:	Singapura Layout and Cross Roads	Date of Sampling:	13-02-2023
Type of material & Purpose:	BC	Date of testing:	13-02-2023
		Oven Dry Wt.(gms):	863.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	79	79.0	9.15	90.85	90 - 100
9.50	114	193.0	22.36	77.64	70 - 88
4.75	127	320.0	37.08	62.92	53 - 71
2.360	111	431.0	49.94	50.06	42 - 58
1.180	86	517.0	59.91	40.09	34 - 48
0.600	76	593.0	68.71	31.29	26 - 38
0.300	77	670.0	77.64	22.36	18 - 28
0.150	61	731.0	84.70	15.30	12 - 20
0.075	63	794.0	92.00	8.00	4 - 10
Pan	69.0				
Total	863.0				

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TEJUS
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DETERMINATION OF RATE OF SPREAD TACK COAT				
Name of Work :	Package No.05 (Consists of 3 Works)			
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE			
Consultant :	M/s Tejus Consultants			
Contractor :	Gopi Reddy K			
Date of Testing :	13-02-2023			
Type of Mix :	Tack coat			
Sample I/D :	1			
Location :	Singapura Paradies 6th Main Road			
Determination	**Unit**	**Test No**		
		1	**2**	**3**
Chainage		**@36**	**@94**	**@125**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.749	0.755	0.802
Final weight of plate after application of tack Coat (c)	Kg	0.772	0.778	0.825
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.252	0.251	0.252
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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TEJUS
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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:115 Devappa Layout Main Road (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	13-02-2023	13-03-2023	28 days	8.169	22500	680	30.22	30.28
2	13-02-2023	13-03-2023	28 days	8.144	22500	681	30.27	
3	13-02-2023	13-03-2023	28 days	8.120	22500	683	30.36	

Remarks : Satisfactory / Not Satisfactory

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:115 Devappa Layout Main Road (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	13-02-2023	20-02-2023	7 days	8.205	22500	445	19.78	19.79
2	13-02-2023	20-02-2023	7 days	8.164	22500	448	19.91	
3	13-02-2023	20-02-2023	7 days	8.175	22500	443	19.69	

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:46 Devappa Layout Main Road (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	13-02-2023	13-03-2023	28 days	8.126	22500	685	30.44	30.50
2	13-02-2023	13-03-2023	28 days	8.169	22500	686	30.49	
3	13-02-2023	13-03-2023	28 days	8.175	22500	688	30.58	

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:46 Devappa Layout Main Road (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	13-02-2023	20-02-2023	7 days	8.829	22500	446	19.82	19.94
2	13-02-2023	20-02-2023	7 days	8.839	22500	449	19.96	
3	13-02-2023	20-02-2023	7 days	8.873	22500	451	20.04	

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TEJUS
CONSULTANTS

Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:54 Devappa Layout 1st cross Road (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	14-02-2023	21-02-2023	7 days	8.133	22500	446	19.82	19.79
2	14-02-2023	21-02-2023	7 days	8.169	22500	448	19.91	
3	14-02-2023	21-02-2023	7 days	8.175	22500	442	19.64	

Remarks : ✓ Satisfactory / Not Satisfactory

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TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:54 Devappa Layout 1st cross Road (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	14-02-2023	14-03-2023	28 days	8.175	22500	689	30.62	30.59
2	14-02-2023	14-03-2023	28 days	8.185	22500	685	30.44	
3	14-02-2023	14-03-2023	28 days	8.169	22500	691	30.71	

Remarks : Satisfactory / Not Satisfactory

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Assistant Executive Engineer
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B.B.M.P, Bangalore - 97

TEJUS
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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:71 Devappa Layout Adishakthi Temple Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	14-02-2023	21-02-2023	7 days	8.824	22500	440	19.56	19.72
2	14-02-2023	21-02-2023	7 days	8.832	22500	443	19.69	
3	14-02-2023	21-02-2023	7 days	8.870	22500	448	19.91	

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Consultant's Representative

Assistant Executive Engineer
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B.B.M.P, Bangalore - 97

TEJUS
CONSULTANTS

DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	14-02-2023
Type of Mix :	Tack coat
Sample I/D :	8
Location	2nd Main Rd

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location	**Chainage**	**@79**	**@168**	**@313**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.761	0.765	0.803
Final weight of plate after application of tack Coat (c)	Kg	0.784	0.788	0.826
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.251	0.252	0.252
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Assistant Executive Engineer
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B.B.M.P, Bangalore - 97

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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	14-02-2023
Type of Mix :	Tack coat
Sample I/D :	9
Location	1st Main Rd from end

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location	**Chainage**	**@126**	**@259**	**@390**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.821	0.752	0.763
Final weight of plate after application of tack Coat (c)	Kg	0.844	0.775	0.786
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.253	0.254	0.253
Average	Kg/sq.m	0.254		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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TEJUS
CONSULTANTS

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	14-02-2023
Type of Mix :	BC
Sample I/D :	BC8

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	935	897
2. Weight of Mixture after extraction, g	886	850
3. Weight of Bitumen	49	47
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	50.60	49.00
8. Bitumen content in %	5.41	5.46
9. Average Bitumen content in %	**5.44**	
10. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-17,Grading-2)

Sample Location:	2nd Main Rd	Date of Sampling:	14-02-2023
Type of material & Purpose:	BC	Date of testing:	14-02-2023
		Oven Dry Wt.(gms):	886.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	77	77.0	8.69	91.31	90 - 100
9.50	115	192.0	21.67	78.33	70 - 88
4.75	122	314.0	35.44	64.56	53 - 71
2.360	111	425.0	47.97	52.03	42 - 58
1.180	108	533.0	60.16	39.84	34 - 48
0.600	87	620.0	69.98	30.02	26 - 38
0.300	79	699.0	78.89	21.11	18 - 28
0.150	71	770.0	86.91	13.09	12 - 20
0.075	68	838.0	94.58	5.42	4 - 10
Pan	48.0				
Total	886.0				

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Authorised Signatory

Assistant Executive Engineer
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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	14-02-2023
Type of Mix :	BC
Sample I/D :	BC9

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	950	902
2. Weight of Mixture after extraction, g	900	855
3. Weight of Bitumen	50	47
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	51.60	49.00
8. Bitumen content in %	5.43	5.43
9. Average Bitumen content in %	**5.43**	
10. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-17,Grading-2)

Sample Location:	1st Main Rd from end	Date of Sampling:	14-02-2023
Type of material & Purpose:	BC	Date of testing:	14-02-2023
		Oven Dry Wt.(gms):	900.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	71	71.0	7.89	92.11	90 - 100
9.50	113	184.0	20.44	79.56	70 - 88
4.75	141	325.0	36.11	63.89	53 - 71
2.360	109	434.0	48.22	51.78	42 - 58
1.180	107	541.0	60.11	39.89	34 - 48
0.600	85	626.0	69.56	30.44	26 - 38
0.300	65	691.0	76.78	23.22	18 - 28
0.150	61	752.0	83.56	16.44	12 - 20
0.075	67	819.0	91.00	9.00	4 - 10
Pan	81.0				
Total	900.0				

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Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore-97

TEJUS
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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:71 Adishakthi Temple Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	14-02-2023	14-03-2023	28 days	8.205	22500	689	30.62	30.70
2	14-02-2023	14-03-2023	28 days	8.195	22500	691	30.71	
3	14-02-2023	14-03-2023	28 days	8.188	22500	692	30.76	

Remarks : Satisfactory / Not Satisfactory

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TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	15-02-2023
Type of Mix :	BC
Sample I/D :	BC9

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	918	950
2. Weight of Mixture after extraction, g	870	900
3. Weight of Bitumen	48	50
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	49.60	52.00
8. Bitumen content in %	5.40	5.47
9. Average Bitumen content in %	**5.44**	
10. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-17,Grading-2)

Sample Location:	Kamaru House Rd and Muniswamappa Garden 6th Main Rd	Date of Sampling:	15-02-2023
Type of material & Purpose:	**BC**	Date of testing:	15-02-2023
		Oven Dry Wt.(gms):	870.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	78	78.0	8.97	91.03	90 - 100
9.50	113	191.0	21.95	78.05	70 - 88
4.75	139	330.0	37.93	62.07	53 - 71
2.360	107	437.0	50.23	49.77	42 - 58
1.180	104	541.0	62.18	37.82	34 - 48
0.600	70	611.0	70.23	29.77	26 - 38
0.300	73	684.0	78.62	21.38	18 - 28
0.150	63	747.0	85.86	14.14	12 - 20
0.075	64	811.0	93.22	6.78	4 - 10
Pan	59.0				
Total	870.0				

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Assistant Executive Engineer
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B.B.M.P, Bangalore - 97

TEJUS
CONSULTANTS

DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	15-02-2023
Type of Mix :	Tack coat
Sample I/D :	10
Location	Kamaru House Rd and Muniswamappa Garden 6th Main Rd

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location	**Chainage**	**@115**	**@242**	**@133 (Muniswamappa Garden)**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.767	0.750	0.833
Final weight of plate after application of tack Coat (c)	Kg	0.790	0.773	0.856
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.253	0.254	0.253
Average	Kg/sq.m	0.254		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike		
Project	Package No.05 (Consists of 3 Works)		
Consultants	TEJUS CONSULTANTS		
Contractor	Gopi Reddy K		
Total Weight:	10000	gms	

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**	**Proposed Use**	Concrete
Sample Location	Plant	**Date of Sampling**	16-02-2023
		Date of Testing	17-02-2023

IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	573	573	5.73	94.27	90-100
10.0	3369	3942	39.42	60.58	40-85
4.75	5425	9367	93.67	6.33	0-10
Pan	633	10000			

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Consultant's Representative

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TEJUS
CONSULTANTS

TEST REPORT						
Clients	Bruhat Bangalore Mahanagara Palike					
Project	Package No.05 (Consists of 3 Works)					
Consultants	TEJUS CONSULTANTS					
Contractor	Gopi Reddy K					
Total Weight:	10000	gms				
SIEVE ANALYSIS						
Type of Material	20 mm down size		**Proposed Use**	Concrete		
Sample Location	At Plant		**Date of Sampling**	16-02-2023		
			Date of Testing	17-02-2023		
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**	
40.00 mm	0	0	0	100	**100**	
20.00 mm	275	275	2.75	97.25	**95 - 100**	
10.00 mm	4866	5141	51.41	48.59	**25 - 55**	
4.75 mm	4369	9510	95.10	4.90	**0 - 10**	
Pan	490	10000				

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TEJUS
CONSULTANTS

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

SPECIFIC GRAVITY AND WATER ABSORPTION
FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**M sand**	**Proposed Use**	Concrete
Location/Source	**At Plant**	**Date of Sampling**	16-02-2023
Period of Soaking	**24 hours**	**Date of Testing**	17-02-2023

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.	664	640	670	
B	Weight of oven - dry sample gm.	655	632	662	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1692	1678	1696	
E	Bulk specific gravity B / (C + A - D)	2.652	2.667	2.659	**2.659**
G	Absorption (%) (A - B) *100 / B	1.374	1.266	1.208	**1.283**

Remarks : Satisfactory / Not Satisfactory

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TEJUS
CONSULTANTS

AGGREGATE IMPACT VALUE
(IS: 2386 Part - 4)

Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	TEJUS CONSULTANTS, BANGALORE		
Contractor	Gopi Reddy K		
Proposed Use	BC	**Date of Sampling**	17-02-2023
Sample Location	At plant	**Date of Testing**	17-02-2023

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	375.00	354.00	357.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	284.00	267.00	272.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	91.00	87.00	85.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	24.27	24.58	23.81	
5	Average Aggregate impact value	(%)	24.22			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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TEJUS CONSULTANTS

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TEJUS
CONSULTANTS

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Project :	Package No.05 (Consists of 3 Works)		
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant :	TEJUS CONSULTANTS, BANGALORE		
Contractor:	Gopi Reddy K		
Type of Material	BC	**Proposed Use**	BC
Sample Location	At plant	**Date of Sampling**	17-02-2023
		Date of Testing	17-02-2023

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	801	78	941	72
16.0	12.5	1294	122	1255	119
12.5	10.0	536	68	447	57
10.0	6.3	471	53	431	71
Total		**3102**	**321**	**3074**	**319**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.35	
Elongation Index(%):	10.38	
Combined FI+EL (%)	20.73	

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4.The material used in the site satisfied the standard of MORTH's 5th revision and hence can be used in the work.

TEJUS CONSULTANTS

Authorised Signatory

Assistant Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEST REPORT					
Clients	Bruhat Bangalore Mahanagara Palike				
Project	Package No.05 (Consists of 3 Works)				
Consultants	TEJUS CONSULTANTS				
Contractor	Gopi Reddy K				

SIEVE ANALYSIS

Total Weight:	**3000** gms				
Type of Materia	**M sand**		**Proposed Use**	Concrete	
Sample Location	At Plant		**Date of Sampling**	17-02-2023	
			Date of Testing	17-02-2023	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing (Zone-II)**
10.00 mm	0	0	0	100.00	**100**
4.75 mm	223	223	7.43	92.57	**90 - 100**
2.36 mm	285	508	16.93	83.07	**75 - 100**
1.18 mm	511	1019	33.97	66.03	**55 - 90**
0.600 mm	548	1567	52.23	47.77	**35 -59**
0.300 mm	665	2232	74.40	25.60	**8-30**
0.150 mm	533	2765	92.17	7.83	**0 - 10**
Pan	235	3000			**-**

Remarks : Satisfactory / Not Satisfactory

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TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
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Test Report on Cement

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Sample ID	Cement (OPC 43 Grade)
Date of Sample Tested	17-02-2023
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	98Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	413 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	7mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	30.00%	

Remarks : Satisfactory / Not Satisfactory

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TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:39 Munwshwara Temple Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	20-02-2023	27-02-2023	7 days	8.824	22500	446	19.82	19.81
2	20-02-2023	27-02-2023	7 days	8.832	22500	448	19.91	
3	20-02-2023	27-02-2023	7 days	8.870	22500	443	19.69	

Remarks : Satisfactory / Not Satisfactory

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:39 Munewshwara Temple Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	20-02-2023	20-03-2023	28 days	8.825	22500	685	30.44	30.58
2	20-02-2023	20-03-2023	28 days	8.832	22500	688	30.58	
3	20-02-2023	20-03-2023	28 days	8.870	22500	691	30.71	

Remarks : Satisfactory / Not Satisfactory

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TEJUS
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FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Project :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor:	Gopi Reddy K

Type of Material	BC	**Proposed Use**	BC
Sample Location	At plant	**Date of Sampling**	20-02-2023
		Date of Testing	20-02-2023

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	791	78	942	69
16.0	12.5	1295	123	1252	117
12.5	10.0	526	62	445	59
10.0	6.3	461	53	435	75
Total		**3073**	**316**	**3074**	**320**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	10.28
Elongation Index(%):	10.41
Combined FI+EL (%)	20.69

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:48 Veckavathi House Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	20-02-2023	27-02-2023	7 days	8.824	22500	448	19.91	19.94
2	20-02-2023	27-02-2023	7 days	8.832	22500	448	19.91	
3	20-02-2023	27-02-2023	7 days	8.870	22500	450	20.00	

Remarks : ✓ Satisfactory / Not Satisfactory

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:48 Veckavathi House Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	20-02-2023	20-03-2023	28 days	8.203	22500	684	30.40	30.62
2	20-02-2023	20-03-2023	28 days	8.169	22500	691	30.71	
3	20-02-2023	20-03-2023	28 days	8.175	22500	692	30.76	

Remarks : Satisfactory / Not Satisfactory

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:106 Veckavathi House Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	20-02-2023	27-02-2023	7 days	8.825	22500	448	19.91	19.88
2	20-02-2023	27-02-2023	7 days	8.832	22500	449	19.96	
3	20-02-2023	27-02-2023	7 days	8.870	22500	445	19.78	

Remarks : Satisfactory / Not Satisfactory

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:169 Veckavathi House Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	20-02-2023	20-03-2023	28 days	8.169	22500	691	30.71	30.59
2	20-02-2023	20-03-2023	28 days	8.155	22500	688	30.58	
3	20-02-2023	20-03-2023	28 days	8.175	22500	686	30.49	

Remarks : ✓ Satisfactory / Not Satisfactory

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Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:169 Veckavathi House Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	20-02-2023	27-02-2023	7 days	8.166	22500	448	19.91	19.79
2	20-02-2023	27-02-2023	7 days	8.175	22500	445	19.78	
3	20-02-2023	27-02-2023	7 days	8.187	22500	443	19.69	

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B.B.M.P, Bangalore - 97

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:106 Veckavathi House Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	20-02-2023	20-03-2023	28 days	8.165	22500	691	30.71	30.80
2	20-02-2023	20-03-2023	28 days	8.166	22500	695	30.89	
3	20-02-2023	20-03-2023	28 days	8.175	22500	693	30.80	

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Consultant's Representative

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	21-02-2023
Type of Mix :	Tack coat
Sample I/D :	11
Location	1st Main Rd

Determination	Unit	Test No		
		1	2	3
Location	**Chainage**	**@35**	**@68**	**@105**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.804	0.796	0.806
Final weight of plate after application of tack Coat (c)	Kg	0.827	0.819	0.829
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.250	0.256	0.251
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Authorised Signatory

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	21-02-2023
Type of Mix :	BC
Sample I/D :	BC1

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	911	898
2. Weight of Mixture after extraction, g	863	851
3. Weight of Bitumen	48	47
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	49.60	49.00
8. Bitumen content in %	5.44	5.46
9. Average Bitumen content in %	**5.45**	
10. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-17,Grading-2)

Sample Location:	1st Main Rd	Date of Sampling:	21-02-2023
Type of material & Purpose:	BC	Date of testing:	21-02-2023
		Oven Dry Wt.(gms):	863.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	71	71.0	8.23	91.77	90 - 100
9.50	102	173.0	20.05	79.95	70 - 88
4.75	115	288.0	33.37	66.63	53 - 71
2.360	112	400.0	46.35	53.65	42 - 58
1.180	108	508.0	58.86	41.14	34 - 48
0.600	95	603.0	69.87	30.13	26 - 38
0.300	85	688.0	79.72	20.28	18 - 28
0.150	57	745.0	86.33	13.67	12 - 20
0.075	72	817.0	94.67	5.33	4 - 10
Pan	46.0				
Total	863.0				

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Authorised Signatory

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TEJUS
CONSULTANTS

AGGREGATE IMPACT VALUE
(IS: 2386 Part - 4)

Project	Package No.05 (Consists of 3 Works)		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	TEJUS CONSULTANTS, BANGALORE		
Contractor	Gopi Reddy K		
Proposed Use	BC	**Date of Sampling**	21-02-2023
Sample Location	At plant	**Date of Testing**	21-02-2023

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	363.00	375.00	368.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	278.00	285.00	282.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	85.00	90.00	86.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	23.42	24.00	23.37	
5	Average Aggregate impact value	(%)	23.60			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

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Assistant Executive Engineer
Vidyaranyapura Sub Division
BBMP, Bangalore

TEJUS CONSULTANTS

Authorised Signatory

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Package No.05 (Consists of 3 Works)	
Consultants	TEJUS CONSULTANTS	
Contractor	Gopi Reddy K	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	12.5 mm down size	Proposed Use	Concrete	
Sample Location	Plant	Date of Sampling	21-02-2023	
		Date of Testing	22-02-2023	

IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	568	568	5.68	94.32	90-100
10.0	3369	3937	39.37	60.63	40-85
4.75	5485	9422	94.22	5.78	0-10
Pan	578	10000			

Remarks : Satisfactory / Not Satisfactory

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TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
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TEST REPORT					
Clients	Bruhat Bangalore Mahanagara Palike				
Project	Package No.05 (Consists of 3 Works)				
Consultants	TEJUS CONSULTANTS				
Contractor	Gopi Reddy K				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	20 mm down size		**Proposed Use**	Concrete	
Sample Location	At Plant		**Date of Sampling**	21-02-2023	
			Date of Testing	22-02-2023	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
40.00 mm	0	0	0	100	**100**
20.00 mm	249	249	2.49	97.51	**95 - 100**
10.00 mm	4895	5144	51.44	48.56	**25 - 55**
4.75 mm	4366	9510	95.10	4.90	**0 - 10**
Pan	490	10000			

Remarks : Satisfactory / Not Satisfactory

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TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

SPECIFIC GRAVITY AND WATER ABSORPTION
FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**M sand**	**Proposed Use**	Concrete
Location/Source	**At Plant**	**Date of Sampling**	21-02-2023
Period of Soaking	**24 hours**	**Date of Testing**	22-02-2023

Sl. No.	Test Property		TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.		655	663	647	
B	Weight of oven - dry sample gm.		647	655	639	
C	Weight of Pycnometer Filled with water gm		1275	1275	1275	
D	Weight of Pycnometer + sample + water gm		1686	1691	1682	
E	Bulk specific gravity	B / (C + A - D)	2.652	2.652	2.663	**2.655**
G	Absorption (%)	(A - B) *100 / B	1.236	1.221	1.252	**1.237**

Remarks : Satisfactory / Not Satisfactory

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TEST REPORT	
Clients	Bruhat Bangalore Mahanagara Palike
Project	Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

SIEVE ANALYSIS

Total Weight:	**3000** gms				
Type of Materia	**M sand**		**Proposed Use**	Concrete	
Sample Location	At Plant/site		**Date of Sampling**	22-02-2023	
			Date of Testing	22-02-2023	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing (Zone-II)**
10.00 mm	0	0	0	100.00	**100**
4.75 mm	223	223	7.43	92.57	**90 - 100**
2.36 mm	271	494	16.47	83.53	**75 - 100**
1.18 mm	515	1009	33.63	66.37	**55 - 90**
0.600 mm	548	1557	51.90	48.10	**35 -59**
0.300 mm	675	2232	74.40	25.60	**8-30**
0.150 mm	532	2764	92.13	7.87	**0 - 10**
Pan	236	3000			-

Remarks : Satisfactory / Not Satisfactory

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Assistant Executive Engineer
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B.B.M.P, Bangalore - 97

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	22-02-2023
Type of Mix :	BC
Sample I/D :	BC12

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	945	923
2. Weight of Mixture after extraction, g	895	875
3. Weight of Bitumen	50	48
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	51.60	50.00
8. Bitumen content in %	5.46	5.42
9. Average Bitumen content in %	**5.44**	
10. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-17,Grading-2)

Sample Location:	Varadharaju Nagara and Cross Roads	Date of Sampling:	22-02-2023
Type of material & Purpose:	BC	Date of testing:	22-02-2023
		Oven Dry Wt.(gms):	895.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	72	72.0	8.04	91.96	90 - 100
9.50	102	174.0	19.44	80.56	70 - 88
4.75	122	296.0	33.07	66.93	53 - 71
2.360	115	411.0	45.92	54.08	42 - 58
1.180	111	522.0	58.32	41.68	34 - 48
0.600	95	617.0	68.94	31.06	26 - 38
0.300	88	705.0	78.77	21.23	18 - 28
0.150	59	764.0	85.36	14.64	12 - 20
0.075	72	836.0	93.41	6.59	4 - 10
Pan	59.0				
Total	895.0				

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TEJUS
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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	22-02-2023
Type of Mix :	Tack coat
Sample I/D :	12
Location	Varadharaju Nagara and Cross Roads

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location	**Chainage**	**@42 1st c/s left**	**@33 2nd c/s left**	**@60 6th A**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.769	0.803	0.788
Final weight of plate after application of tack Coat (c)	Kg	0.792	0.826	0.811
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.253	0.254	0.253
Average	Kg/sq.m	0.254		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

TEJUS
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Test Report on Cement

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Sample ID	Cement (OPC 43 Grade)
Date of Sample Tested	22-02-2023
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	103 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	385 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	5mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	27.00%	

Remarks : ✓ Satisfactory / Not Satisfactory

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Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	23-02-2023
Type of Mix :	BC
Sample I/D :	BC13

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	923	898
2. Weight of Mixture after extraction, g	874	851
3. Weight of Bitumen	49	47
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	50.60	49.00
8. Bitumen content in %	5.48	5.46
9. Average Bitumen content in %	**5.47**	
10. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-17,Grading-2)

Sample Location:	Varadharaju Nagara and Cross Roads	Date of Sampling:	23-02-2023
Type of material & Purpose:	BC	Date of testing:	23-02-2023
		Oven Dry Wt.(gms):	874.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	70	70.0	8.01	91.99	90 - 100
9.50	102	172.0	19.68	80.32	70 - 88
4.75	122	294.0	33.64	66.36	53 - 71
2.360	115	409.0	46.80	53.20	42 - 58
1.180	108	517.0	59.15	40.85	34 - 48
0.600	95	612.0	70.02	29.98	26 - 38
0.300	88	700.0	80.09	19.91	18 - 28
0.150	55	755.0	86.38	13.62	12 - 20
0.075	66	821.0	93.94	6.06	4 - 10
Pan	53.0				
Total	874.0				

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DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	23-02-2023
Type of Mix :	Tack coat
Sample I/D :	13
Location	Varadharaju Nagara and Cross Roads

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location	**Chainage**	**@103 5th C/sRd Right Side**	**@79 Axis Bank Opposite**	**@150 Axis Bank Opposite Rd**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.813	0.794	0.788
Final weight of plate after application of tack Coat (c)	Kg	0.836	0.817	0.811
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.250	0.256	0.251
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	24-02-2023
Type of Mix :	BC
Sample I/D :	BC14

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
1. Weight of Mixture before extraction, g	915	891
2. Weight of Mixture after extraction, g	867	844
3. Weight of Bitumen	48	47
4. Weight of filter paper before extraction, g	2.00	2.00
5. Weight of filter paper after extraction, g	4.10	4.00
6. Weight of fines, g	1.60	2.00
7. Weight of Bitumen & fines	49.60	49.00
8. Bitumen content in %	5.42	5.50
9. Average Bitumen content in %	**5.46**	
10. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION
(As per MORT&H 500-17,Grading-2)

Sample Location:	Vasbalanagara 3rd Main 5th c/s Road	Date of Sampling:	24-02-2023
Type of material & Purpose:	**BC**	Date of testing:	24-02-2023
		Oven Dry Wt.(gms):	867.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	65	65.0	7.50	92.50	90 - 100
9.50	105	170.0	19.61	80.39	70 - 88
4.75	123	293.0	33.79	66.21	53 - 71
2.360	113	406.0	46.83	53.17	42 - 58
1.180	105	511.0	58.94	41.06	34 - 48
0.600	96	607.0	70.01	29.99	26 - 38
0.300	85	692.0	79.82	20.18	18 - 28
0.150	52	744.0	85.81	14.19	12 - 20
0.075	62	806.0	92.96	7.04	4 - 10
Pan	61.0				
Total	867.0				

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TEJUS CONSULTANTS

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Assistant Executive Engineer
Vijayanagarapura Sub Division
B.B.M.P, Bangalore

DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Package No.05 (Consists of 3 Works)
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	TEJUS CONSULTANTS, BANGALORE
Contractor :	Gopi Reddy K
Date of Testing :	24-02-2023
Type of Mix :	Tack coat
Sample I/D :	14
Location	Vasbalanagara 3rd Main 5th c/s Road

Determination	**Unit**	**Test No**		
		1	**2**	**3**
Location	**Chainage**	**@126**	**@364**	**@483**
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.804	0.758	0.764
Final weight of plate after application of tack Coat (c)	Kg	0.827	0.781	0.787
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.250	0.256	0.251
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

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TEJUS
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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:69 Gangamma Temple Rd From end (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	27-02-2023	06-03-2023	7 days	8.205	22500	440	19.56	19.63
2	27-02-2023	06-03-2023	7 days	8.208	22500	442	19.64	
3	27-02-2023	06-03-2023	7 days	8.169	22500	443	19.69	

Remarks : Satisfactory / Not Satisfactory

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TEJUS
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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:69 Gangamma Temple Rd From end (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	27-02-2023	27-03-2023	28 days	8.166	22500	685	30.44	30.64
2	27-02-2023	27-03-2023	28 days	8.185	22500	691	30.71	
3	27-02-2023	27-03-2023	28 days	8.175	22500	692	30.76	

Remarks : ✓ Satisfactory / Not Satisfactory

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:165 Gangamma Temple Rd From end (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	27-02-2023	06-03-2023	7 days	8.197	22500	451	20.04	19.97
2	27-02-2023	06-03-2023	7 days	8.184	22500	448	19.91	
3	27-02-2023	06-03-2023	7 days	8.176	22500	449	19.96	

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:165 Gangamma Temple Rd From end (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	27-02-2023	27-03-2023	28 days	8.826	22500	685	30.44	30.50
2	27-02-2023	27-03-2023	28 days	8.835	22500	686	30.49	
3	27-02-2023	27-03-2023	28 days	8.873	22500	688	30.58	

Remarks : Satisfactory / Not Satisfactory

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TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:213 Gangamma Temple Rd From end (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	27-02-2023	06-03-2023	7 days	8.826	22500	448	19.91	19.79
2	27-02-2023	06-03-2023	7 days	8.835	22500	445	19.78	
3	27-02-2023	06-03-2023	7 days	8.873	22500	443	19.69	

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:213 Gangamma Temple Rd From end (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	27-02-2023	27-03-2023	28 days	8.825	22500	681	30.27	30.31
2	27-02-2023	27-03-2023	28 days	8.832	22500	682	30.31	
3	27-02-2023	27-03-2023	28 days	8.870	22500	683	30.36	

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:32Nirmala House Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	27-02-2023	06-03-2023	7 days	8.169	22500	440	19.56	19.63
2	27-02-2023	06-03-2023	7 days	8.155	22500	442	19.64	
3	27-02-2023	06-03-2023	7 days	8.146	22500	443	19.69	

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:32Nirmala House Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	27-02-2023	27-03-2023	28 days	8.158	22500	689	30.62	30.71
2	27-02-2023	27-03-2023	28 days	8.177	22500	691	30.71	
3	27-02-2023	27-03-2023	28 days	8.194	22500	693	30.80	

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TEST REPORT		
Clients	Bruhat Bangalore Mahanagara Palike	
Project	Package No.05 (Consists of 3 Works)	
Consultants	TEJUS CONSULTANTS	
Contractor	Gopi Reddy K	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	20 mm down size		**Proposed Use**	Concrete	
Sample Location	At Plant		**Date of Sampling**	27-02-2023	
			Date of Testing	28-02-2023	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
40.00 mm	0	0	0	100	**100**
20.00 mm	239	239	2.39	97.61	**95 - 100**
10.00 mm	4866	5105	51.05	48.95	**25 - 55**
4.75 mm	4369	9474	94.74	5.26	**0 - 10**
Pan	526	10000			

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Package No.05 (Consists of 3 Works)	
Consultants	TEJUS CONSULTANTS	
Contractor	Gopi Reddy K	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**	**Proposed Use**	Concrete
Sample Location	Plant	**Date of Sampling**	27-02-2023
		Date of Testing	28-02-2023

IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	555	555	5.55	94.45	90-100
10.0	3369	3924	39.24	60.76	40-85
4.75	5469	9393	93.93	6.07	0-10
Pan	607	10000			

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TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS
Contractor	Gopi Reddy K

SPECIFIC GRAVITY AND WATER ABSORPTION
FINE AGGREGATE (IS-2386-PART-3)

Type of Material	**M sand**	**Proposed Use**	Concrete
Location/Source	**At Plant**	**Date of Sampling**	27-02-2023
Period of Soaking	**24 hours**	**Date of Testing**	28-02-2023

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	Average
A	Weight of sturated surface dry sample gm.	645	653	662	
B	Weight of oven - dry sample gm.	636	645	653	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1680	1685	1692	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.650	2.654	2.665	**2.657**
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.415	1.240	1.378	**1.345**

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TEST REPORT	
Clients	Bruhat Bangalore Mahanagara Palike
Project	Package No.05 (Consists of 3 Works)
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	Gopi Reddy K

SIEVE ANALYSIS

Total Weight:	**3000**	gms			
Type of Materia	**M sand**		**Proposed Use**	Concrete	
Sample Location	At Plant		**Date of Sampling**	28-02-2023	
			Date of Testing	28-02-2023	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing (Zone-II)**
10.00 mm	0	0	0	100.00	**100**
4.75 mm	215	215	7.17	92.83	**90 - 100**
2.36 mm	275	490	16.33	83.67	**75 - 100**
1.18 mm	429	919	30.63	69.37	**55 - 90**
0.600 mm	577	1496	49.87	50.13	**35 -59**
0.300 mm	755	2251	75.03	24.97	**8-30**
0.150 mm	536	2787	92.90	7.10	**0 - 10**
Pan	213	3000			**-**

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Test Report on Cement

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Sample ID	Cement (OPC 43 Grade)
Date of Sample Tested	28-02-2023
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	95 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	465 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	8mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	30.00%	

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TEST REPORT					
Clients	Bruhat Bangalore Mahanagara Palike				
Project	Package No.05 (Consists of 3 Works)				
Consultants	TEJUS CONSULTANTS				
Contractor	Gopi Reddy K				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	20 mm down size		**Proposed Use**	Concrete	
Sample Location	At Plant		**Date of Sampling**	01-03-2023	
			Date of Testing	02-03-2023	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
40.00 mm	0	0	0	100	**100**
20.00 mm	265	265	2.65	97.35	**95 - 100**
10.00 mm	4866	5131	51.31	48.69	**25 - 55**
4.75 mm	4364	9495	94.95	5.05	**0 - 10**
Pan	505	10000			

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Package No.05 (Consists of 3 Works)	
Consultants	TEJUS CONSULTANTS	
Contractor	Gopi Reddy K	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**		**Proposed Use**	Concrete	
Sample Location	Plant		**Date of Sampling**	01-03-2023	
			Date of Testing	02-03-2023	
IS Sieve Size (in mm)	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
20.0	0	0	0	100	100
12.5	581	581	5.81	94.19	90-100
10.0	3348	3929	39.29	60.71	40-85
4.75	5469	9398	93.98	6.02	0-10
Pan	602	10000			

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:69 Mariyamma Block (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	02-03-2023	09-03-2023	7 days	8.825	22500	450	20.00	19.94
2	02-03-2023	09-03-2023	7 days	8.832	22500	448	19.91	
3	02-03-2023	09-03-2023	7 days	8.870	22500	448	19.91	

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:69 Mariyamma Block (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	02-03-2023	30-03-2023	28 days	8.825	22500	683	30.36	30.33
2	02-03-2023	30-03-2023	28 days	8.832	22500	681	30.27	
3	02-03-2023	30-03-2023	28 days	8.870	22500	683	30.36	

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:122 Mariyamma Block (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	02-03-2023	09-03-2023	7 days	8.824	22500	442	19.64	19.70
2	02-03-2023	09-03-2023	7 days	8.833	22500	445	19.78	
3	02-03-2023	09-03-2023	7 days	8.874	22500	443	19.69	

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Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:122 Mariyamma Block (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	02-03-2023	30-03-2023	28 days	8.121	22500	684	30.40	30.34
2	02-03-2023	30-03-2023	28 days	8.195	22500	683	30.36	
3	02-03-2023	30-03-2023	28 days	8.187	22500	681	30.27	

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:148 Mariyamma Block (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	02-03-2023	09-03-2023	7 days	8.176	22500	445	19.78	19.81
2	02-03-2023	09-03-2023	7 days	8.169	22500	449	19.96	
3	02-03-2023	09-03-2023	7 days	8.156	22500	443	19.69	

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:148 Mariyamma Block (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	02-03-2023	30-03-2023	28 days	8.824	22500	690	30.67	30.67
2	02-03-2023	30-03-2023	28 days	8.833	22500	692	30.76	
3	02-03-2023	30-03-2023	28 days	8.874	22500	688	30.58	

Remarks : Satisfactory / Not Satisfactory

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Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura Sub Division
B.B.M.P, Bangalore - 97

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Test Report on Cement

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Sample ID	Cement (OPC 43 Grade)
Date of Sample Tested	02-03-2023
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	108 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	395 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	6mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	31.00%	

Remarks : Satisfactory / Not Satisfactory

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:39 Kuvempu Nagara 2nd Stage, M R Seetham Rao Rd 2nd Cross Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	03-03-2023	10-03-2023	7 days	8.824	22500	450	20.00	19.91
2	03-03-2023	10-03-2023	7 days	8.832	22500	448	19.91	
3	03-03-2023	10-03-2023	7 days	8.870	22500	446	19.82	

Remarks : Satisfactory / Not Satisfactory

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:39 Kuvempu Nagara 2nd Stage, M R Seetham Rao Rd 2nd Cross Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	03-03-2023	31-03-2023	28 days	8.822	22500	682	30.31	30.28
2	03-03-2023	31-03-2023	28 days	8.833	22500	682	30.31	
3	03-03-2023	31-03-2023	28 days	8.871	22500	680	30.22	

Remarks : ✓ Satisfactory / Not Satisfactory

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:45 Singapura Garden ,Aniketan House Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	06-03-2023	13-03-2023	7 days	8.824	22500	445	19.78	19.70
2	06-03-2023	13-03-2023	7 days	8.832	22500	442	19.64	
3	06-03-2023	13-03-2023	7 days	8.870	22500	443	19.69	

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Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:45 Singapura Garden ,Aniketan House Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	06-03-2023	03-04-2023	28 days	8.825	22500	685	30.44	30.34
2	06-03-2023	03-04-2023	28 days	8.834	22500	682	30.31	
3	06-03-2023	03-04-2023	28 days	8.873	22500	681	30.27	

Remarks : ✓ Satisfactory / Not Satisfactory

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:109 Singapura Garden ,Aniketan House Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	06-03-2023	13-03-2023	7 days	8.824	22500	446	19.82	19.75
2	06-03-2023	13-03-2023	7 days	8.832	22500	445	19.78	
3	06-03-2023	13-03-2023	7 days	8.870	22500	442	19.64	

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:109 Singapura Garden ,Aniketan House Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	06-03-2023	03-04-2023	28 days	8.821	22500	684	30.40	30.49
2	06-03-2023	03-04-2023	28 days	8.834	22500	686	30.49	
3	06-03-2023	03-04-2023	28 days	8.873	22500	688	30.58	

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Test Report on Compressive Strength of Concrete Cubes								
Project	Name of Work:Package No.05 (Consists of 3 Works)							
Client	Bruhat Bangalore Mahanagar Palike							
Consultant	TEJUS CONSULTANTS							
Contractor	Gopi Reddy K							
Location:	Cement							
Grade of concrete:	M30							
Size of cube:	150x150x150 mm							
Reference IS code:	IS:516-1959							
Sample Location	Ch:49 Mukundha House Rd From end (Concrete Road)							
Sl.No.	**Date of Casting**	**Date of testing**	**Age of Test**	**Weight of Cube**	**Area of Cube**	**Failure load**	**Compressive strength**	**Avg. Compressive strength**
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	06-03-2023	13-03-2023	7 days	8.136	22500	445	19.78	19.84
2	06-03-2023	13-03-2023	7 days	8.205	22500	448	19.91	
3	06-03-2023	13-03-2023	7 days	8.169	22500	446	19.82	
Remarks :	Satisfactory / Not Satisfactory							

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:49 Mukundha House Rd From end (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	06-03-2023	03-04-2023	28 days	8.824	22500	681	30.27	30.34
2	06-03-2023	03-04-2023	28 days	8.836	22500	682	30.31	
3	06-03-2023	03-04-2023	28 days	8.871	22500	685	30.44	

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TEST REPORT					
Clients	Bruhat Bangalore Mahanagara Palike				
Project	Package No.05 (Consists of 3 Works)				
Consultants	TEJUS CONSULTANTS				
Contractor	Gopi Reddy K				
Total Weight:	10000	gms			

SIEVE ANALYSIS					
Type of Material	20 mm down size		**Proposed Use**	Concrete	
Sample Location	At Plant		**Date of Sampling**	06-03-2023	
			Date of Testing	07-03-2023	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
40.00 mm	0	0	0	100	**100**
20.00 mm	247	247	2.47	97.53	**95 - 100**
10.00 mm	4958	5205	52.05	47.95	**25 - 55**
4.75 mm	4369	9574	95.74	4.26	**0 - 10**
Pan	426	10000			

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:43 Cross Road-2 (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	07-03-2023	04-04-2023	28 days	8.821	22500	683	30.36	30.34
2	07-03-2023	04-04-2023	28 days	8.833	22500	681	30.27	
3	07-03-2023	04-04-2023	28 days	8.874	22500	684	30.40	

Remarks : ✓ Satisfactory / Not Satisfactory

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Test Report on Compressive Strength of Concrete Cubes								
Project	Name of Work:Package No.05 (Consists of 3 Works)							
Client	Bruhat Bangalore Mahanagar Palike							
Consultant	TEJUS CONSULTANTS							
Contractor	Gopi Reddy K							
Location:	Cement							
Grade of concrete:	M30							
Size of cube:	150x150x150 mm							
Reference IS code:	IS:516-1959							
Sample Location	Ch:43 Cross Road-2 (Concrete Road)							
Sl.No.	**Date of Casting**	**Date of testing**	**Age of Test**	**Weight of Cube**	**Area of Cube**	**Failure load**	**Compressive strength**	**Avg. Compressive strength**
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	07-03-2023	14-03-2023	7 days	8.195	22500	442	19.64	19.59
2	07-03-2023	14-03-2023	7 days	8.169	22500	440	19.56	
3	07-03-2023	14-03-2023	7 days	8.158	22500	440	19.56	

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Test Report on Cement

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Sample ID	Cement (OPC 43 Grade)
Date of Sample Tested	07-03-2023
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	106 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	414 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	6mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	29.00%	

Remarks : Satisfactory / Not Satisfactory

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TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike		
Project	Package No.05 (Consists of 3 Works)		
Consultants	TEJUS CONSULTANTS		
Contractor	Gopi Reddy K		
Total Weight:	10000	gms	

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**	**Proposed Use**	Concrete
Sample Location	Plant	**Date of Sampling**	06-03-2023
		Date of Testing	07-03-2023

IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	588	588	5.88	94.12	90-100
10.0	3345	3933	39.33	60.67	40-85
4.75	5436	9369	93.69	6.31	0-10
Pan	631	10000			

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:30 Prakruthi Layout 2nd Cross Road (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	08-03-2023	05-04-2023	28 days	8.821	22500	686	30.49	30.40
2	08-03-2023	05-04-2023	28 days	8.834	22500	684	30.40	
3	08-03-2023	05-04-2023	28 days	8.879	22500	682	30.31	

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:41 Varadharaju Nagara 5th A Cross Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	08-03-2023	15-03-2023	7 days	8.203	22500	442	19.64	19.78
2	08-03-2023	15-03-2023	7 days	8.197	22500	445	19.78	
3	08-03-2023	15-03-2023	7 days	8.185	22500	448	19.91	

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Test Report on Compressive Strength of Concrete Cubes

Project	Name of Work:Package No.05 (Consists of 3 Works)
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	Gopi Reddy K
Location:	Cement
Grade of concrete:	M30
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959
Sample Location	Ch:41 Varadharaju Nagara 5th A Cross Rd (Concrete Road)

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	08-03-2023	05-04-2023	28 days	8.821	22500	681	30.27	30.31
2	08-03-2023	05-04-2023	28 days	8.830	22500	682	30.31	
3	08-03-2023	05-04-2023	28 days	8.842	22500	683	30.36	

Remarks : Satisfactory / Not Satisfactory

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples colleted at site/received in the laboratory.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.
4. The material used in the site satisfied the standard of MORTH's 5th revision and hence can be used in the work.

TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer
Vidyaranyapura
B.B.M.P, Bangalore - 97

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Client	Bruhat Bangalore Mahanagar Palike							
Consultant	TEJUS CONSULTANTS							
Contractor	Gopi Reddy K							
Location:	Cement							
Grade of concrete:	M30							
Size of cube:	150x150x150 mm							
Reference IS code:	IS:516-1959							
Sample Location	Ch:30 Prakruthi Layout 2nd Cross Road (Concrete Road)							
Sl.No.	**Date of Casting**	**Date of testing**	**Age of Test**	**Weight of Cube**	**Area of Cube**	**Failure load**	**Compressive strength**	**Avg. Compressive strength**
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	08-03-2023	15-03-2023	7 days	8.202	22500	439	19.51	19.66
2	08-03-2023	15-03-2023	7 days	8.195	22500	442	19.64	
3	08-03-2023	15-03-2023	7 days	8.184	22500	446	19.82	
Remarks :	Satisfactory / Not Satisfactory							

Note:

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